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SCIENCE

ADVICE TO THE STUDENTS OF THE BANARAS HINDU UNIVERSITY

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The call of invitation that has led me on to this platform to-day, though imperative in its demand, is, I must confess, foreign to my temperament. It speaks of a responsibility which I am compelled to acknowledge owing to my previous Karma, that has indentified me with a vocation specially belonging to that beneficent section of community which surely is not mine. Believe me once upon a time I was young, in fact, younger than most of you, and in that early dawn of mind's first urge of expansion I instinctively chose my own true path which, I believe, was to give rhythmic expression to life on a colourful background of imagination. Pursuing the lure of dreams I spent my young days in a reckless adventure,—forcing verses through a rigid barricade of literary conventions. Such foolhardiness met with serious disapproval of the severely sober among the overripe minds of this epoch. If I had persisted exclusively in this inconsequential career of a versifier you would not have ventured to ask such an undadulterated poet to take a conspicuous part on this solemn occasion when a great University has gathered her scholars to remind them of the high obligations associated with their success in college examinations.

However, towards the period of my declining youth, I took upon myself, for no ostensible reason whatever, the deliberate mission of the teacher. This transformation in my life helped to unlock the gates to me at those institutions where my right of entry could legitimately be challenged. While enjoying the unaccustomed honour thus acquired I should confess to you that it was not a compelling sense of duty which guided me to this field of education but some long maturing ideals in my mind that constantly troubled my imagination claiming definite shapes. I have decided to speak to you about those ideals.

Before I broach my subject to-day I shall claim your indulgence in one or two points. It is evident to you that I have grown old, but you who are young cannot fully realise the limitations of old age. That I am not in a full possession of my breath may not be of any importance to others whose lungs are strong and whose hearts render loyal service to them without murmur. It may have a salutary effect upon me in curtailing the garrulity to which an old man's tongue has the habit to glide in. But what is more significant about a man who has crossed his seventieth year is that by that time he has concluded most of his opinions and thoughts and thus is compelled to repeat himself. This is one of the reasons why the young persons bored by his reiterations become naturally excited to a violent fit of contradiction which may be courteously suppressed and therefore all the more outrageous. But to save my energies I am ready to take the consequence and openly to plagiarize my own store of thoughts and even words. I strongly suspect that you have missed them, for, not being in your text books they must have remained beyond the reach of your serious attention, and I am confident that there is very little chance of your taking the trouble to explore them in obscure pages of publications generally overlooked by my countrymen.

In Modern India centres of education have been established in large towns where the best part of energy and interest of the country is attracted. The constant flow of stimulation working upon our mind from its cosmic environment is denied us who are bred in towns. A great deal of the fundamental objects of knowledge with which Nature provides us free of cost is banished into printed pages and a spontaneous communication of sympathy with the great word which who belong to the tribe of the born exiles having been artificially nourished by "the stony hearted stepmother"—a modern city, keenly felt the torture of it when young and thus realised when opportunity was given me, the utmost necessity of Nature's own bounties for the proper development of children's mind. It helps me to imagine the main tragedy that I believe had overshadowed the life of the poet Kalidasa.

Fortunately for the scholars, he had left behind him no clear indication of his birthplace, and thus they have a subject that oblivious time has left amply vacant for an endless variety of disagreement. My scholarship does pretend to go deep, but I remember having read somewhere that he was born in Kashmir. Since then I have left off reading discussions about his birthplace for the fear of meeting with some learned contradiction equally convincing. Anyhow it was perfectly in the fitness of things that Kalidas should be born in Kashmir,—and I envy him, for I was born in Calcutta. He was compelled to suffer an honorable banishment from there to a city in the plains,—and his whole poem of *Meghaduta* reverberates with the music of sorrow that had its crown of suffering "in remembering happier things". Is it not significant that in this poem, the lover's errant fancy, in the quest of the beloved who dwelt in the paradise of eternal beauty, lingered with a deliberate delay of enjoyment round every hill, stream or forest over which it passed; watched the grateful dark eyes of the peasant girls welcoming the rain-laden clouds of June; listening to some village elder reciting under the banyan tree a well-known love-legend that ever remained fresh with the tears and smiles of generations of simple hearts? Down we not feel in all this the prisoner of the gaint city revelling in a vision of joy that, in his imaginary journey, followed him from hill to hill, awaited him at every turn of the path which bore the finger-posts of heaven for separated lovers banished on the earth?

I wish to impress you with the fact that one of the noble function is to reconcile our humanmind with the world of Nature through perfect knowledge and enjoyment. The great universe surrounding us with endless aspects of the eternal in varied rhythms of colours, sounds and movements constantly mitigates the pressure upon us of our small self along whose orbit whirl like meteors dense fragments of ephemeral interests. Education must have for its fulness an environment of a detached mind like the aerial atmosphere which envelopes the earth opening for her a path of communication with the infinite.

The *mantram* which I have accepted for my own purpose of life, and which carries within it in a concentrated form the true ideal of education is Infinite Peace, Infinite Well-being the Infinite One.

Peace there is in the depth of the universe, the peace which is not of inertia, but for the constant reconciliation of contrary forces, the peace that regins in the sphere of the stars among gigantic whirlpools of calashing flames. This spirit of a mighty peace we must win in our life through the training of selfcontrol and balacne of mind. Our individual beings are universes in a self-luminous held of onsciousness; they have their instincts and desires as inflammatory elements which should be brought under control to be coerced into perfect creations. I was about to say that these were universes in miniature but I hesitated when I realised that spiritual entity cannot be measured by a criterion which is that of spatial expansisions. Also we cannot be certain about time limits of those realims just as we are doubtful about those of the suns and stars. In fact there is a strong reason in favour of their being eternal pilgrims passion through countless cycles of renewal but for which the whole world would have gone out of existence long before this.

The human spirit whose highest min is to realise itself in the supreme Spirit, in its progress towards finality is enjoined by our scriptures to choose for its initial stage *Brahmacharyya*, the stage of self-discipline. This is in order that it can be established in the heart of *Shantam*, in the infinity of detachment. The basis of education has to be acuquired in this *Shantam*, the harmony of the soul in its unobstructed sense of the Eternal. The idea of pilgrimage that prevails in India has the same educational meaning. Its sites have been specially selected where nature reveals overwhelming magnanimity in its aspect of the beautiful and the grand. There, at the touch of the ineffable our worldly experiences lose their tenacious grip of immediacy and life's truth is rescured into the light from the density of entanglements.

There is another pilgrimage for us which is in the world of knowledge. This journey in the open road gives us emanci-

pation not only illusions of appearance and peremptoriness of the prevalent unreason, but also from worng valuations of reality, from all kinds of bias that obscure our vision of truth, from the enchainment in the narrow cage of provincialism. It is a strenuous walk, every step of which has to be carefully taken with a solemn eagerness for the truth which is to be its goal. There was a time when the University had its origin in man's faith, in the ultimate value of culture which he pursued for its own sake. But unfortunately in the modern days greed has found its easy access into the sacred shrine dedicated to the cause of mind's fulfilment. The sordid spirti of success has allowed the educational institutions to be annexed to the busy market where *Vidya* is bought and sold according to the standard of worldly profit, where cheap facilities are offered for acuquiring, in place of true education, its make-believe substitute.

It is fully worthwhile to emphasize the truth that the ultimate purpose of education is to enable us to live a complete life which can be realised through our complete unity with existence, part of which consists of the human community. For us the world of nature has no reciprocal path of union which may be termed as moral. Its manifestations in the predestined course of activities take no head of our conduct or necessity, make no distinction between the good and the evil. The human relationship with blind forces combining in an eternal game of creation, indifferent to our personal cry, can only be established through our own impersonal faculty of reason whose logic is universal. By understanding Nature's laws and modulating them to our needs we reach the *Shantam* in the extra-human world the *Shantam* which is the fundamental principle of harmony. Such an adustment of Nature's workings to human intelligence has been progressing from the beginning of Man's history, and according to the degree of that progress we judge that depattment of our civilisation which we generalise, very often wrongly, a materrialistic.

The Supreme Being, says the Upanishad, has to be realised with our heart and mind as well, as Visvakarma and as *Mahatma*

sada jananam hrdaye sannivishtah. His name Visvakarma implies laws that are universal through which his activities in the physical world are revealed. They would elude our reason if they were expressions of a capricious will, then we could never depend upon the inevitableness of their influences upon our destiny, the influences which can only be turned to our favour if we have perfect knowledge of them. There are individuals even to-day who believe in some happenings in nature which are arbitrary and local, which ignore all the endless links of causes that keep the world in order. They imagine that the physical phenomena are liable to sudden outbreaks of catastrophic charms which are like special ordinances originating in isolated causes. Faith in such cosmic arbitratiness drives men to the primitive mentality of fear to unmeeaning ritualism, to imputations of special purpose upon natural events accoreing to one's own personal tendencies of mind. We ought to know that numerous evils which in olden days were considered as punitive weapons in the arsenal of God have been tamed to innocuousness through accurate comprehension of their character.

It has been said in our scripture that *avidya* which means ignorance is the root cause of all evils, the ignorance which blinds us to the truth of the unity of our self with the not-self.

Man's *sadhana* for his union with nature depends for its success upon his faith in his reason and his disinterested endeavour in an atmosphere of detachment. A perfect technique of such a training is largely found in the West, and there the people are fast assimilating in there own power the power that lies in *Anna Brahma*, the infinity manifested in matter. In fact they are gradually extending their own physical body into the larger body of the physical world. Their senses are constantly being augmented in power, their bodily movements allied to natures' forces of speed. Every day proofs are multiplied convincing them that there is no end to such intimacy leading to the extension for their self in the realm of time and space. This is the true means of realising Visvakarma, the universal worker, by a mind divested of all doubts and by action.

Shantam, the spirit of peace, which can be attained through the realisation of truth, is not the whole object of education ; it needs for its finality Shivam, Goodness, through the training of moral perfection, for the sake of the perfect harmony witht he human world.

The greatness which man has reached in the expansion of the physical and intellectual possibilities in him shows no doubt, a great advancement in the course of his evolution. Yet in its lop-sided emphasis it carries the course of *avidya,* the mother of all sufferings and futility *avidya* which obscures the warning for him that his individual self when isolated from all other selves misses its reality and therefore suffers unhappiness, just as his physical body is thwarted in its function when out of harmony with the physical world.

The union of our self with Brahma as *Visvakarma* may bring us success in the province of living, but for the peace and perfection in the realm of our being we need our union with Brahma who is Mahatma, the Infinite Spirit dwelling in the hearts of all peoples.

With the modern facilities of communication not merely a limited number of individuals but all the races of men have come close to each other. If they fail to unite in truth then humanity will flounder in the bottom of a surging sea of mutual hatred and suspicion. Things to-day have already assumed an angry temper of a growling beastliness ready for an enormous catastrophe of suicide.

Most problems to-day have become international problems and yet the international mind has not yet been formed, the modern teachers' conscience not having taken its responsiblity in helping to invoke it.

The word "international" may sound too indefinite, its meaning appearing large only because of its vagueness, like water acquiring volume by turning into vapour. I do not belive in an internationalism which is amorphous, whose fatures are broadened

into flatness. With us it must be internationalism of India, with its own distinct character.

The true universal finds its manifestation in the individuality which is true. Beauty is universal, and a rose receals it because, as a rose, it is individually beautiful. By making a decoction of a rose, jasmine and lotus you do not get to a realisation of some larger beauty which is interfloral. The true universalism is not in the breaking down of the walls of one's own house, but in the offering of hospitality to one's guests and neighbours.

Like the position of the earth in the course of its diurnal and annual motions, man's life, a any time, must be the reconciliation of its own personality, and another whose centre is in a luminous ideal comprehending the whole human world. The international endeavour of a people must carry the movement of the people's own personality round the great spirit of man. The inspiration must be its own, which is to help it in its aspiration towards fulfilment. Otherwise, mere cosmopolitanism but drifts on the waves, buffeted by wind from all quarters, in an imbecility of movement which has no progress.

As a people we must be fully conscious of what we are. It is a truism to say that the consciousness of the unity of a people implies the knowledge of its part as well no its whole. But most of us not only have no such knowledge of India, they do not even have an eager desire to cultivate it.

By asserting our national unity with vehemence in our political propaganda, we assure ourselves that we possess it, and thus continue to live in a make-believe world of political day-dreams.

The fact is, we have a feeble human interest in our own country. We love to talk about politics and economics; we are ready to soar into the thin air of academic abstractions, or roam in the dusk of pedantic wildernesses; but we never care to cross our social boundaries and come to the door of our neighbouring communities, personally to enquire how they think and feel and express themselves, and how they fashion their lives.

The love of man has its own hunger for knowing. Even if we lack this concerning our fellow-being in India, except in our political protestations, at least love of knowledge for its own sake could have brought us close to each other. But there also we have failed and suffered. For weakness of knowledge is the foundation of weariness of knowledge is the foundation of weariness of power. Until India becomes fully distinct in our mind, we can never gain in her truth; and where truth is imperfect, love can never have its full sway. The best function of our Education Centres is to help us to *know* ourselves; and then along with it, her other mission will be fulfilled which is to inspire us to *give* ourselves.

What has given such enormous intellectual power to Europe is her co-ordination of minds? She has evolved a means by which all countries of that continent can thinktogether. Such a great concert of ideas, by its own pressure of movement, naturally wears away all -her individual aberrations of thought and extravagances of unreason. It keeps her flights of fancy close to the limits of reticence. All her different thought rays have been focussed in our common culture, which finds its complete expression in all the European universities.

The mind of India, on the other hand, is divided and scattered; there is no one common pathway along which we can reach it. We cannot but look with regret at the feebleness of stimulation in our academic training for the forming of our mind which in co-operation of knowledge and sympathy may comprehend the larger mind of the country. The most important object of our educational institutions is to help each student to realise his personality as an individual representing his people in such broad spirit, that he may know how it is the most important fact of his life for him to have been born to the great world of man.

We, in India are unfortunate in not having the chance to give expression to the best in us in creating intimate relations with the powerful peoples of the world. The bond between the nations to-day is made of the links mutual menace, its strength depen-

ding upon the force of panic, and leading to an enormous waste of resources in a competition of brow-beating and bluff. Some great voice is waiting to be heard which will usher in the sacred light of truth in the dark region of the nightmare of politics. But, we in India, have not yet had the chance. Yet, we have our own human voice which truth demands. Even in the region where we are not invited to act we have our right to judge and to guide the mind of man to a proper point of view, to the vision of ideality in the heart of the real.

The activity represented in human education is a world-wide one, it is a great movement of universal co-operation inter-linked by different ages and countries. And India, though defeated in her political destiny, has her responsibility to hold up the cause of truth, even to cry in the wilderness, and offer her lessons to the world in the best gifts which she could produce. The messengers of truth have ever joined their hands across centuries, across the seas, across historical barriers, and they help to form the great continent of human brotherhood. Education in all its different forms and channels has its ultimate purpose in the evolving of a luminous sphere of human mind from the nebula that has been rushing round ages to find in itself an eternal centre of unity. We, individuals, however small may be our power and whatever corner of the world we may belong to, have the claim upon us to add to the light of the consciousness that comprehends all humanity. And for this cause I ask your co-operation, not merely because co-operation itself is the best aspect of the truth we represent, it is an end and not merely the means.

We are new converts to western ideals, in other words, the ideals belonging to the scientific view of life and the world. This is great and it is foolish to belittle its importance by wrongly describing it as materialism. For, Truth is spiritual in itself, and truly materialistic is the mind of the animal which is unscientific and therefore unable to cross the dark screen of appearance, of accidents, and reach the deeper region of universal laws. Science means intellectual probity in our dealings with the material world. This conscientiousness of mind is spiritual, for it never

judges its results by the standard of external profits. But in science, the oft-used half-truth that honesty is the best policy has proved itself to be completely true. Science being mind's honesty in its relation to the physical universe never fails to bring us the best profit for our living. And mischief finds its entry through this backdoor of utility, and Satan has had an ample chance of making use of the divine fruit of knowledge for bringing shame upon humanity. Science as the best policy is tempting the primitive in man bringingout his evil passions through the respectable cover that it has supplied him. And this is why it is all the more needed today that we should have faith in ideals that have been matured in the spiritual field through ages of human endeavour for perfection, the golden crops that have developed in different forms and in different soilds but whose food value for man's spirit has the same composition. These are not for the local markets but for universal hospitality, for sharing life's treasure with each other and realising that human civilization is a spiritual feast the invitation to which is open to all, it is never for the ravenous orgines of carnage where the food and the feeders are being torn to pieces.

The legends of nearly all human races carry man's faith in a golden age which appeared as the introductory chapter in human civilization. It shows that man has his instinctive belief in the objectivity of spiritual ideals thought this cannot be proved. It seems to him that they have already been given to him and that this gift has to be proved through his history of effort against obstacles. The idea o-f millenium so often laughed at by the clever is treasured as the best asset by man in his mythology as a complete truth realised for ever in some ageless time. Admitting that it is not a scientifical fact we must at the same time know that the instinct cradled and nourished in these primitive stories has its eternal meaning. It is like the instinct of a chick which dimly feels that an infinite world of freedom is already given to it, that it is not a subjective dream but an objective reality, even truer than its life within the egg. If a chick has a rationalistic tendency of mind it ought not to believe in a freedom which

is difficult to imagine and contradictory to all its experience, but all the same it cannot help pecking at its shell and ever accepting it as ultimate. The human soul confined in its limitation has also dreamt of a millenum and striven for an emancipation which seems impossible of attainment, and it has felt its experience of the true, good and beautiful, finds its reality though it cannot be proved, the reality in which our aspiration for freedom in truth, freedom in love, freedom in the unity of man is ideally realised for ever.

(Convocation address, 1940')

पंचाख्यान या सदाचार में भगवान् का दर्शन

वासुदेव शरण अग्रवाल, काशी हिन्दू विश्वविद्यालय।

जीवन के मूल्यवान स्थायी तत्त्वों की व्याख्या के अनेक प्रयत्न प्राचीन भागवत धर्म में पाए जाते हैं। उसी का एक नमूना पंचाख्यान नामक यह सुन्दर उपाख्यान है। कथा का शिल्प प्राचीन होते हुए भी कहानी का नीतितत्त्व अर्वाचीन है।

एक बार ऋषियों ने व्यास से पूछा—'ऐसा कोई यज्ञ बताइए जिसे बड़े और छोटे सब कर सकें, जो कष्ट के विना सब वर्गों के लिये सुलभ हो, जिसके करने से देवों को मिलने वाला स्वर्ग भी मानव को मिले और धर्म का भी पूर्ण फल प्राप्त हो।'

प्रश्न सुनकर व्यास ने कहा—'इस विषय में पंचाख्यान प्रसिद्ध है। इन पांचों आख्यानों का जो तत्त्व है यदि उसे एक सूत्र में पिरोकर जीवन में ग्रहण किया जाय तो यश और स्वर्ग क्या मोक्ष भी मिल सकता है। अब वह आख्यान सुनो'।

एक कोई नरोत्तम नामक ब्राह्मण था। वह अपनी माता और पिता की अवज्ञा करके तीर्थयात्रा से पुण्य कमाने के लिये तीर्थों को चला गया। अनेक तीर्थों में स्नान करने से उसे इतना पुण्य मिला कि उसके भीगे वस्त्र अधर आकाश में सूखने लगे। ब्राह्मण के मन मे अहंकार आ गया कि मुझ जैसा पुण्यकर्मा कोई नहीं है। वह यह कह ही रहा था कि उसके उपर एक बगुले ने बीट कर दी। ब्राह्मण को क्रोध आगया और उसने शाप देते हुए बगुले की ओर देखा। बगुला तत्काल भस्म होकर गिर पड़ा। उस पाप से ब्राह्मण के वस्त्रों का आकाश में सूखना बन्द होगया। ब्राह्मण को इससे दुःख हुआ। उसी समय आकाशवाणी हुई—'हे ब्राह्मण, मूक नामक एक परम धार्मिक चाण्डाल है। तुम उसके पास जाओ। वह धर्म को जानात है। उसके वचन से तुम्हारा क्षेम होगा।'

यह सुनकर वह ब्राह्मण ढूढ़ता हुआ मूक चाण्डाल के घर पहुंचा। वह वहां क्या देखता है कि मूक के पास जो कुछ भी शक्ति और सम्पत्ति थी उनसे वह अपने माता पिता की सेवा शुश्रूषा कर रहा था। उन दोनों की परिचर्या करने के बाद ही भोजन करता और अनेक प्रकार से उनके श्रम और सन्ताप का निवारण करता था। उसके इस पुण्य से विष्णु भगवान् ने उसके घर के भीतर विप्र रूप में अपना निवास बनाया। नरोत्तम ब्राह्मण ने मूक के घर को तेज और सत्त्व से सम्पन्न देखकर आश्चर्य से पूछा—'कृपा करके मुझसे कहिए कि सब लोंगो का शाश्वत हित किस प्रकार हो सकता है। इस प्रश्न का यथार्थ उत्तर मुझे चाहिए।'

मूक ने कहा—'मैं और कुछ नहीं जानता समझता। मेरे लिये तो माता पिता की सेवा बड़ा कर्तव्य है। मेरी दृष्टि में पिता ही धर्म और पिता ही तप है। पिता को प्रसन्न कर सकूं तो सब देवता स्वयं प्रसन्न रहेंगे। मेरी दृष्टि में माता-पिताकी सेवा नित्य गंगास्नान के समान है। माता सर्वतीर्थमयी है और पिता सर्वदेवमय है। वह मानव लोक में धन्य है जिसने अपने शरीर को माता-पिता की सेवा से पवित्र बनाया। माता-पिता की आराधना

के विना जो तीर्थ के देवताओं की ओर भागता है वह कीड़े के तरह कितना ही पृथिवी का चक्कर काटे उसे कोई फल नहीं मिलता। अच्छा, अभी तो मैं पिता की सेवा में लगा हूं, तुम द्वार पर ठहरो। इस चर्या से निवृत्त होकर मैं तुम्हारा आतिथ्य करूंगा।'

चाण्डाल की यह बात सुनकर ब्राह्मण आगबबूला हो गया और बोला—'मुझ ब्राह्मण की ओर ध्यान देने से भी क्या अधिक तुम्हारे पास और कोई काम है?' मूक ने शान्तभाव से कहा—'हे विप्रराज, व्यर्थ कोप मत करो। मैं वह बगुला नहीं हूं जिस पर तुम्हारा कोप चल गया था। क्रोध से ही तो तुम्हारे वस्त्र आकाश में सूखने बन्द हो गए। उसी पर आकाश-वाणी सुनकर ही तो तुम मेरे घर पर आए हो। यदि तुम ठहरना चाहो तो ठहरो, नहीं तो उस पतिव्रता के पास जाओ जो धर्म को जानती है और जिसके पास तुम्हारी जिज्ञासा पूरी होगी।'

उसी समय घर के भीतर से ब्राह्मणवेषधारी विष्णु ने बाहर आकर नरोत्तम से कहा—'मैं उस पतिव्रता का घर जानता हूं। मेरे साथ चलो।' ब्राह्मण उसके साथ हो लिया पर अत्यन्त विस्मित होकर उसने मार्ग में पूछा—'हे ब्राह्मण, तुम कौन हो जो इस चाण्डाल के घर में रहते हो?' विप्ररूपधारी विष्णु ने कहा—'इस समय तुम्हारा मन शुद्ध नहीं है। पतिव्रता आदि के दर्शन करके पीछे तुम जानोगे कि मैं कौन हूं।' नरोत्तम ने पूछा—'यह पतिव्रता कौन है ? क्या उसका ज्ञान इतना अधिक है कि मेरे जैसा ब्राह्मण भी उससे जाकर कुछ सीखे ?' विप्र-रूपधारी विष्णु ने उत्तर दिया—'नदियों में जैसे गंगा श्रेष्ठ है, मनुष्यों में जैसे राजा है और देवों में जैसे स्वयं विष्णु हैं, वैसे ही स्त्रियों में पतिव्रता का स्थान है। पतिव्रता नारी दोनों ओर के सौ सौ कुलों का उद्धार करती है। उसके लिये स्वर्ग और मोक्ष दोनों सुलभ हैं। जो पुत्र के स्नेह से सौगुने प्रेम से पति की सेवा करती है और राजा से होने वाले भय की अपेक्षा सौगुने भय से अपने पति की चर्या करती है, जो विष्णु की भांति पति की आराधना करती है, वह पतिव्रता है। जो अपने पति के लिये कार्य में दासी, रति में वेश्या, भोजन में माता और विपत्ति में मन्त्रिणी बनती है उसे ही पतिव्रता भार्या जानो।'

इस प्रकार बातचीत करते हुए उस पतिव्रता का घर आगया और विप्ररूपधारी विष्णु ने कहा—'देखो, उसका नाम शुभा है। तुम वहां जाकर उससे अपने हित की बात पूछो।' उसके बाद वह विप्र दिखाई नहीं पड़ा और नरोत्तम ने साध्वी शुभा के घर जाकर आवाज दी। वह सुनते ही बाहर आई। तब विप्र ने उससे कहा—'मेरा जिससे कल्याण हो ऐसा उपदेश अपने अनुभव के आधार पर तुम मुझे दो।' पतिव्रता ने कहा—'अभी मैं पति की सेवा में लगी हूं, पीछे कहूंगी। अभी तो आतिथ्य ग्रहण करो।' विप्र ने कहा—'मुझे न भूख है न प्यास। मैंने जो पूछा है या तो उसका उत्तर दो नहीं तो तुम्हें शाप दे दूंगा।' यह सुनते ही उसने कहा—'हे ब्राह्मण, मुझे वह बगुला मत समझो। यदि ऐसी शीघ्रता है तो धर्मतुलाधार के पास चले जाओ। वे तुम्हारा हित कथन करेंगे।' यह कहकर वह घर के भीतर चली गई। नरोत्तम ने भी उसी क्षण घर से बाहर निकलते हुए एक ब्राह्मण को देखा जैसा चाण्डाल के घर में हुआ था। नरोतम ने अचरज से कहा—'दूर देश में जो हुआ था उसे इसने कैसे जान लिया? चाण्डाल की तरह इसने भी वही बात कही।' ब्राह्मणवेशधारी विष्णु ने कहा—'अत्यन्त पुण्यात्मा लोग सदाचार के नियमों से सब कारणों को जान लेते हैं, इसमें आश्चर्य क्या? पर यह तो बताओ

कि उसने तुमसे क्या कहा।' नरोत्तम ने उत्तर दिया—'उसने मुझे तुलाधार के पास जाने को कहा।' विप्र ने कहा—'चलो मैं तुम्हें वहां पहुँचा देता हूँ।' दोनों बात करते हुए धर्मतुलाधार के स्थान पर पहुंचे। वहां वह अनेक रसों की विक्री कर रहा था। स्त्री और पुरुष ग्राहक चारों ओर से उसे घेरे हुए थे और उससे वस्तुओं का भावताव पूछ रहे थे। नरोत्तम ने वहां एक विचित्र वातावरण देखा। वह तुलाधार अपने मुख से ही सब को दे और ले रहा था। उसकी वाणी में न झूठ था न मन में किसी प्रकार की दुर्जनता। दोकान करते हुए उसकी दृष्टि सर्वलोक-हित में लगी थी। वह अपने धन्धे में मन, कर्म और वाणी से कोई विकार नहीं आने देता था। सबके प्रति वह समभाव से वरतता था। उसके लिये मिट्टी और सोना बराबर थे। जौ, रस, घी, तेल, अन्न जितना उसने मुंह से कह दिया लोग प्रसन्न होकर ले जाते थे। वह प्राणान्त संकट आने पर भी कभी सत्य छोड़कर झूठ नहीं कहता था।

धर्मतुलाधार ने नये अतिथि को देखकर आने का कारण पूछा। अतिथि ने कहा—'मैं धर्म का तत्त्व जानने के लिये तुम्हारे पास आया हूं।' तुलाधार ने उत्तर दिया—'हे विप्र, जबतक ये ग्राहक मुझे घेरे हैं मुझे स्वस्थता नहीं है। रात्रि के समय आओ तो ठीक रहेगा। यदि अभी उपदेश चाहते हो तो अद्रोहक धर्माकर नाम के व्यक्ति के पास चले जाओ जो कभी किसी से द्रोह नहीं करता। तुम्हारे द्वारा बगुले के मरने और वस्त्र सूखने की बात भी वह जानता है। वहां तुम्हारी इच्छा पूरी हो जायगी और तुम सब जान लोगे।' यह कहकर वह तुलाधार फिर अपने क्रय-विक्रय में लग गया।

नरोत्तम ने कहा—'हे तात, मैं उसका घर नहीं जानता।' तुरन्त ही विप्ररूपधारी हरि ने कहा—'मैं तुम्हारे साथ वहां तक चलूंगा।' रास्ते में जाते हुए नरोत्तम को शंका हुई कि यह तुलाधार कैसा है जो न देवपूजन करता है, न पितरों का तर्पण, जिसका शरीर भी मैल से भरा है, कैसे उसने दूर देश में हुई मेरी बात जान ली। हरि ने कहा—'भाई, क्या पूछते हो? सत्य के पालन और समभाव के द्वारा उसने तीनों लोक वश में कर लिये हैं। ऋषि, देवता और पितर सब इसी कारण उससे प्रसन्न हो उठे हैं। भूत और भविष्य का सारा वृतान्त इसी से वह जान लेता है। सत्य से परे और धर्म नहीं एवं झूठ से बढ़कर पातक नहीं। जो शत्रु और मित्र में समभाव से वरतता है उसके सब पाप क्षीण हो जाते हैं। लोक में कोई उसके बाहर नहीं ठहरता। वह तो स्वयं ही धर्म का साक्षात् रूप हो गया है और यह संसार उसी के आधार पर टिका है।' यह सुनकर नरोत्तम ने कहा—'तुलाधार का मर्म तो मैं जाना। अब द्रोह न करने वाले उस धर्माकर की बात भी कहिए।'

विप्ररूपी हरि ने कहा—'पहले समय में एक राजकुमार था। उसकी नवयौवना स्त्री अत्यन्त रूपवती थी। राजकुमार को अकस्मात् कहीं जाने का काम आगया। उसने सोचा 'इस प्राण समान भार्या को कहां रखकर जाऊं, जिससे इसका चरित्र निरापद रहे। विचार कर वह अद्रोहक धर्माकर के पास आया और उससे अपनी सुन्दरी स्त्री को रख लेने की बात कही। अद्रोहक ने उत्तर दिया—'राजपुत्र, क्या कहते हो? मैं तुम्हारा पिता–भाई–बन्धु–बान्धव कोई नहीं और इस स्त्री के भी मातृ–पितृ कुल का नहीं। मेरे घर में इसे रखकर तुम कैसे स्वस्थ रह सकोगे?' राजपुत्र ने कहा—'मैंने जान लिया है कि तुम्हारे समान लोक में कोई जितेन्द्रिय और धर्मज्ञ नहीं।' अद्रोहक ने कहा—'भाई, अच्छी तरह समझ लो, पीछे मुझे दोष मत देना।

त्रिलोकमोहिनी स्त्री से अपनी रक्षा कौन कर सकता है?' राजपुत्र ने पहली बात को दृढ़ करते हुए कहा—'पृथिवी में अच्छी तरह पूछताछ कर ही मैं तुम्हारे पास आया हूं। यह स्त्री तुम्हारे ही यहां रहेगी, मैं जाता हूं।' तब उस गृहस्थ ने राजपुत्र से कहा—'अनेक कामियों से भरे हुए इस नगर में स्त्री की रक्षा कठिन है। यदि यह तुम्हारी स्त्री मेरे ही बराबर एक शयन पर मेरी भार्या के साथ सोएगी और अपने देवस्वरूप पति का ध्यान रखेगी तभी मैं इसे रख सकता हूं।' राजपुत्र ने क्षण भर सोचा और कहा—'तुम्हारी बात मुझे स्वीकार है।' तव उस गृहस्थ ने उस सुन्दरी से कहा—'हे सुन्दरी, जो कहूं वैसा करना होगा, उसमें दोष मत मानना।'

रात्रि आने पर वह गृहस्थ जिसने अपने मन और इन्द्रियों को सर्वथा जीत लिया था एक ही पलंग पर अपनी पत्नी और उस सुन्दरी के बीच में सोया। जब अपनी स्त्री से स्पर्श करता तो उसके मन में काम की अभिलाषा होती, पर जब उस सुन्दरी का संस्पर्श होता तो समझता कि मेरी पुत्री सोई हुई है। जब सुन्दरी के स्तन उसके पृष्ठभाग का स्पर्श करते तो वह समझता कि ये मेरी माता के स्तन हैं जो मुझ बालक-पुत्र को प्राप्त तो हो रहे हैं। प्रतिदिन वह उस सुन्दरी में अपनी माता की ही भावना रखता। इस प्रकार जब छह मास बीत गए तब वह राजपुत्र नगर में वापस आया। उसने अपनी पत्नी और गृहस्थ के आचार के विषय में लोगों से पूछा। किसी ने भला कहा, किन्हीं युवकों ने अचरज प्रकट किया, किसी ने कहा—'वह तो उसके साथ सोती है। स्त्री-पुरुष के एकत्र संसर्ग में भला कहीं कोई शान्त रह सकता है?' जनापवाद की कुछ भनक उस गृहस्थ के भी कान में पड़ी। उसके सूक्ष्म-धर्म-वेदी मानस ने तत्काल कर्तव्य निश्चित कर लिया। उसने ईंधन मंगाकर अग्नि जलाई। इसी बीच में राजपुत्र ने आकर उसे और अपनी स्त्री को देखा। स्त्री तो प्रसन्न थी परन्तु वह पुरुष दुखी था। उसके मन का भाव जानकर राजपुत्र ने कहा—'हे मित्र, मैं बहुत दिन में आया हूं, तुम मुझ से बोलते क्यों नहीं?' उस धर्मात्मा ने कहा—'मैंने तुम्हारे लिये जो कुछ भी संयम किया वह सब व्यर्थ है यदि लोग मुझपर शंका करते हैं। इसलिये आज अग्नि मुझे शुद्ध कर देगी। मनुष्य और देवता दोनों इसे आज देखेंगे।' यह कहकर वह अग्नि में कूद पड़ा। किन्तु आग की लपटें उसका बाल वांका न कर सकीं। आकाश के देवता उस पर फूल बरसाने लगे। जिन्होंने उसके विषय में निन्दा के वाक्य कहे थे उनके मुंह अनेक रोगों से बन्द हो गए। उसके चरणों की धूल से पवित्र हुई पृथिवी अन्न से भर गई। देवों ने प्रकट होकर कहा—'इसके सदृश लोक में कोई न होगा। काम लोभ इसे नहीं जीत सके—

एतस्य सदृशो लोके न भूतो न भविष्यति।
नास्तीति सांप्रतं पृथ्व्यां कामलोभाजितः पुमान्।

(पद्मपुराण, सृष्टि खंड, ४७-१३९)

काम, क्रोध और लोभ सभी जीवों को घेर लेते हैं पर इसने उन्हें जीतकर चोदहों भुवन जीत लिए। इसी आनन्द से स्वयं विष्णु इसके हृदय में निवास करने लगे हैं।' इस प्रकार उस व्यक्ति के दर्शन से मनुष्य अपने पापों से मुक्त होने लगे। उस धर्मात्मा को दिव्य-दृष्टि प्राप्त हुई। जो देव हैं उन्हें वह प्रत्यक्ष देखने लगा और त्रैलोक्य की सब बातें उसने इच्छामात्र से जानली।

इतनी बात करते हुए नरोत्तम उस धर्मात्मा के घर के पास पहुंच गया और उसने उससे धर्म के तत्त्व के विषय में प्रश्न किया। धर्मात्मा गृहस्थ ने कहा—'हे विप्र, अच्छा हो कि तुम

उस विष्णु-भक्त पुरुषोत्तम के पास चले जाओ। उसी के दर्शन से तुम्हारा अभीष्ट पूरा होगा। बगले के मरने, वस्त्रों के सूखने की बात तथा और जो तुम्हारे मन में है, वह सब जानता है।'

यह सुनकर वह नरोत्तम हरिरूपी विप्र के साथ उसके घर पहुंचा। वहां उसने एक शुद्ध पुरुष के दर्शन किए जो अपने ही तेज से भासमान था और भगवान के ध्यान में बैठा हुआ था। पहुंचकर जिज्ञासु ब्रह्मण ने कहा—'मैं दूर से आपके पास आया हूं। मुझपर जो बीती है, आप सब जानते हैं।' विष्णु-भक्त ने कहा—'आप पर भगवान् प्रसन्न हैं। आपके दर्शन से मेरा मन भी प्रसन्न हुआ है। आज आपका मनोरथ पूर्ण होगा और फिर पहले की तरह आपका स्नानीय वस्त्र आकाश में सूखने लगेगा।' यह सुनकर आगन्तुक ने गद्गद् होकर कहा—'आपके वह विष्णु कहां हैं? मुझे उनके दर्शन कराइए।' तब वह विष्णु-भक्त उसे अपने घर में ले गया और वहां उस अतिथि ने पद्मासन पर विराजमान उसी विप्र के दर्शन किए जो उसके साथ कई बार आया था। तब उसने शिर से प्रणाम करके उसके चरण पकड़कर कहा—'मुझ पर कृपा कीजिए। मैंने पहले आपको नहीं पहचाना। इस लोक में और परलोक में मैं आपका ही दास हूं। आपके अनुग्रह को मैंने इन आंखों से देखा है। अब आप के रूप को भी देखना चाहता हूं, यदि आपकी मुझ पर कृपा हो जाय।

तब विष्णु ने कहा—'हे ब्राह्मण, मैं तुमसे प्रसन्न हूं। तुम सदा मेरे प्रिय हो। उसी स्नेह के वश तो मैंने तुम्हें पुण्यवानों के दर्शन कराए हैं। यहां स्वर्ग और क्या है? पुण्यवानों का एक बार भी यदि दर्शन-स्पर्शन हो जाय या उनसे भाषण का अवसर मिल जाय या उनके विषय में सोचने और उनके गुण-कीर्तन का अवसर मिल जाय तो वही अक्षय स्वर्ग है। जो मेरा भक्त है वह तीर्थ का ही रूप है। तुम उसी मूक नामक महात्मा चाण्डाल के घर जाओ। वह तीर्थ का ही रूप है और पुण्यात्माओं में श्रेष्ठ है। उसी मूक के दर्शन से तुमने यह सब चमत्कार देखा है और तुम मेरे पास तक दर्शन और सम्भाषण के लिये पहुंच सके हो। हे वत्स, तुम मेरे पास तक आ गए हो तो मुझसे कोई भी वर मांगलो।' ब्राह्मण ने कहा—'यदि आप मुझ पर प्रसन्न हैं तो हे भगवान्! आप मेरे मानस में निवास करें।' विष्णु ने कहा—'यदि तुम्हारी ऐसी बुद्धि है तो तुम्हारी इच्छा पूर्ण होगी किन्तु, मेरा उपदेश है कि पहले जाकर अपने माता-पिता की पूजा करो, पीछे मेरे पास आना। उन्हीं की कृपा से तुम मेरे स्थान में पहुंच सकोगे।'

इतना सुनकर उस ब्रह्मण ने जगद्गुरु भगवान् विष्णु से फिर कहा—भगवान्! मुझे आज भी यह विस्मय है कि मूक आदि ने देशान्तर में घटित मेरे वृतान्त को कैसे जान लिया?' विष्णु ने उत्तर दिया—'मूक अपने माता-पिता का भक्त था। वह शुभा स्त्री मन-वचन-कर्म से पतिव्रता थी। तुलाधार सत्यवादी और सद्भाव से युक्त था। अद्रोहक ने लोभ और काम को जीत लिया था और यह वैष्णव मेरा सच्चा भक्त है। इनके इन्हीं गुणों से तो मैं प्रसन्न हुआ और इनके घर में साक्षात् रूप से रहने लगा।'

भागवत-धर्म के किसी निपुण साहित्यिक शिल्पी ने इस पंचाख्यान की रचना की थी। भगवान् क्या हैं? धर्मतत्त्व क्या है? मानवों के समाज में किस प्रकार वह धर्मतत्त्व ऊंच-नीच का भेद छोड़कर गुणों के रूप में गृहीत किया जा सकता है? इसकी स्पष्ट सुनिश्चित व्याख्या

इस उपाख्यान के द्वारा की गई है। सदाचार का उत्तम गुण ही भगवान् का सच्चा स्वरूप है। सच कहा जाय तो माता-पिता की पूजा अर्थात् गृहस्थ के पारिवारिक कर्तव्यों का पूर्णतया पालन, स्त्री द्वारा पातिव्रत-धर्म का आग्रह, प्रत्येक व्यक्ति के लिये सब मनुष्यों के प्रति समता का भाव, किसी से भी द्रोह न करना और भगवान् की भक्ति—ये पांच महायज्ञ हैं जिनके द्वारा मानव पवित्र से पवित्रतर बन जाता है—

पित्रोरर्चाथ पत्युश्च साम्यं सर्वजनेषु च।
मित्राद्रोहो विष्णुभक्तिरेते पंचमहामखाः।।

(पद्मपुराण, सृष्टि खण्ड, ४७१७)

कहानी का महान् लक्ष्य सदाचार के ऐसे प्रजातन्त्र की स्थापना है जिसमें स्त्री और पुरुष, राजा और प्रजा, ब्राह्मण और चाण्डाल जो कथा के पात्र हैं समान अधिकार रखते हैं और भगवत्स्वरूप की अभिव्यक्ति में सम्मिलित प्रयत्न करते हैं।

MY TOUR OF THE E. EUROPEAN COUNTRIES (DEC. 4, 1958—JAN. 26, 1959)

SURYAKANTA

I left India on Dec. 4, 1958, by an A.I.I. plane as a member of the Delegation of Workers on Indian Art; and after visiting thes ocialist countries of the Eastern Europe, returned home on Jan. 26, 1959 by an A.I.I. plane. On Jan. 27-29 I attended at N. Delhi the meetings of the Expert Committee on Legal terms and have joined duties at the B.H.U. on Feb. 1st. On Jan. 31st. I had the privilege of paying respects to the Prime Minister, to whom I have conveyed my impressions—pleasant and otherwise; and I am glad that he gave me a very sympathetic hearing though mine was an intrusion upon him with no prior appointment.

I have studied in this tour all the important universities, museums, libraries, art centres, foreign publishing hourses, national theatres and national stadiums of the U.S.S.R., Poland, Czechoslovakia and Jugoslavia, visiting Moscow, Leningrad, Minsk, Kiev, Warsaw, Cracov, Nova Huta, Prague and Beograd in the company of my colleagues. But the privilege of representing this country of Kālidāsa and Tagore at the great national celebrations held in honour of Fizūlī, the greatest poet of Aezerbazan on Dec. 10-17 at Baku, fell upon me; and arrangements were made for me to visit Kutna Hora in Czechoslovakia on Jan. 10, Zagreb, the famous university town in Jugoslavia on Jan. 16-17 and on my way home Tashkent, the capital of the Uzbek Republic on Jan. 20-26. While my visit to Baku, Kutna Hora and Zagreb gave me opportunities to see the great oil industry of the U.S.S.R., (besides procuring photographs of 26 inscriptions in Sanskrit on the gates of a Dharmaśālā built near Baku by the Hindus visiting that town in 15-17 Centuries) the unique ancient church-çulture of Czechoslovakia and the monumental Bibliography of the Serbo-Croatians my visit to Tashkent has left an abiding impression on my mind; for it afforded me the opportunity of visiting the older parts of Tashkent and seeing

for myself the cultural and material status of those people who once visited this country of ours to conquer it—although their mental and physical resources are even to-day far inferior to those of ours—but who had the signal advantage of unity, while India lay divided into so many warring castes and creeds. This was a great lesson for me, an eye-opener, that is worth remembering if we want to make free India permanently great. But while I have learnt a lot from the peoples of these advancing countries I have given them something substantial in a manner for which they have developed a liking for me and have repeatedly asked me to visit them again. May be it was due to the note that was perhaps sent from Delhi about me to Moscow; if that was so I am the more grateful to my Government.

Extremely oppressive as the past had been for the peoples of these countries they discarded in 1917 all that pertained to the past—even the study of the classical languages was utterly discarded. I have succeeded in persuading them to rehabilitate these studies with Sanskrit as an option in some schools. At Cracov, in Poland, the chair of Sanskrit was abolished in 1951; they have agreed to have it again, and the scholar in view for it is shortly coming to India to stay with me for a year or so to have first hand knowledge of India and its vast linguistic material. In Jugoslavia the Minister of Education and Culture has been persuaded to have a School of Indian and South-east Asian languages at Beograd or Zagreb; and our worthy friend Ali Yawar Jung has promised to help them in its establishment. A real love and regard for India has been created a fresh in those countries and a new assurance for support in our Kashmir struggle has been secured from peoples, who are eager to have intimate relations with us—and all this was made possible by the extreme kindness and regard the Russian Government extended to me; for they, on my return from Baku, deputed Mr. Kartalov, a seasoned officer in the Ministry of Culture to help me in my mission; and he indeed proved of invaluable help to me throughout my tour in the U.S.S.R.

No nation would ever beat the Russians in the study of *human psychology; and it is they who have experienced the bitterest* consequences of the narrow-minded priest-craft and

their ageold powerful aristocracy. For this reason they have studiously done away with all that pertains to mere tradition: no priesthood, no nobility, no trace of the narrow-minded regionalism—the very idea of narrowness has been meticulously done away with. Look at the frontage of their newly constructed State Library, State University and National Stadium, their grandeur is compelling; their loftiness is commanding—you get the idea of something vast, something contending with space and time—bursting the bounds imposed on man by man. This is the one unmistakable symbol of Russian life; their hatred of narrowness and their love of expansion.

In all the socialist countries the study of Russian has been made compulsory—the one bond of mutual communication—and this is not by force; but by sheer superiority of the Russian language, whose magnitude I visualized for the first time in the famous Leningrad library—where more than three million Russian books are arranged in an array that commands world—attention. All the socialist countries have once for all accepted the Russian language as the one vehicle of their inter-national expression—and there is a unity in diversity created in those countries by this factor. No other socialist country has thought of demanding compulsion for its language for the Russians; it has been left entirely to the wish of the Russian nation. This compromise based on necessity may serve as an indication in the direction of evolving India's efficient official language.

It was under this impulse of bitterness left on them by the past that the socialist countries discarded the study of the classical languages, for which I found absolutely no provision in any school or college; though to my great joy I visited one Schola Internat, with Hindi as compulsory; there are many with Chinese and other foreign languages as compulsory—schools where education is imparted on the Gurukula lines—the scholars spending their working days in the boarding house and visiting their parents only on sundays. I discussed the merits and demerits of this hatred of traditional learning and they have felt inclined to create provision for the study of Greek and Latin, with Sanskrit as option in some schools.

The Russians realize the value of mental discipline for success in life; and while they did discard the study of classics, they made the study of higher mathematics obligatory in all their educational institutions—and it is this that is today bearing fruit in the shape of their ever-mounting national inventions.

There is compulsory free education for all in the socialist countries; and yet their universities are not overcrowded;—the pre-university test, conducted by the universities in cooperation with governments, screens away the ungifted element; for whom admission is arranged in vocational institutions, that are varied and many, and are easy of access to the rich and the poor-both male and female. Employment is secure and is alluringly lucrative for all, in open markets, with no sign of nepotism; that is put down everywhere with a stern hand.

And while employment is secure for adults, the care that is bestowed on the child is simply admirable; for, no function or place is beyond access for a child—even the grand State Library has a special hall, with 750 seats, for children below 12; and this one feature should speak volumes for the care they bestow on their citizen.

Then their ways and methods of education: a visit to the famous Planetorium of Moscow proved revealing in this respect. The grand circular Planetorium, having more than 3000 seats was full of smiling prattlers on Dec. 19th., when we visited it at 10 A.M. Exactly at 10.5 a professor came and gave a brilliant show of the Sputnik—each detail fromits inc eption to maturity was thrown on the screen with commentary; with all the notable planets glimmering in the sky, that had assumed majesty of God's bespeckled canopy. I am happy because I saw the history of the Sputnik in the company of those free children; but I am unhappy because I find no notion of that method of education in my country. Remember, such Planetoriums are open in all the big towns of the socialist countries.

And where the government machinary is so sympathetically and honestly penetrating in the mental sphere of the society, its achievements on the material plane are well nigh surprising—

for no man or woman goes in those countries without proper shelter, enough wholesome food, enough protective clothing; not only in big cities but also in remote villages, which I had the audacity to visit, without notice, all alone; and while the new houses in the cities are all eight-storied, they in the mofassil towns and villages are mostly two-storied; but all are equally fitted with radio and other means of mass contact; and it is in this mass contact that the Russian has shown his peculiar leadership, and it is through this that he feels and controls the pulse of his nation.

And then that ageold distinction of class—the one bane of human society. How signally they have done away with it; wholesale, in its entirety. You observe no distinction whatsoever between a state minister and a labourer—so much so that the President of the Aezarbazan Repŭblic lives in a six-room apartment, while Academician Soumbat Zade, has a seven-room apartment. It all depends on the actual requirements of the man in those countries-where requirements of all are equally decently met.

Where so much is done for the child and the adult, the care that is bestowed on the health of the citizen can better be imagined. All the latest medical facilities are absolutely free for all, alike; even the highest expert in any branch of surgery is accessible alike to Khruschev and the humblest labourer. And this is through my own personal experience; for, I, unattended by any local official, visited the Leningrad and Zagreb hospitals for my foot trouble, and the prescriptions together with the spare quantity of the medicines given to me free, are even today with me along with the sweet memories of the two doctors, who have shown me the high ideal of the solid social service.

A word about their recreation and amusement. All the big towns have numerous theatres, operas, ballets, puppet theatres, cinemas and circuses, all on a grand Russian scale, all fitted with comfortable seats; but all virtually free; for, the state has fixed nominal charges for these; and it is zealous of providing proper recreation to all its citizens.

Add to these recreational halls those vast national Stadiums which are found in all the cities and are designed to accommodate lacs of people at one time for a variety of sports, really a boon to the student community ; indeed the healthiest means of conserving and developing the nation's precious wealth on right lines.

This picture of the socialist society will remain incomplete if I do not say a word about the system of prostitution in those countries, a word about those dark throbbing moments when a sister crouches out all alone to sell her virtue to a chance passerby, simply because she is utterly destitute—and must have something to live by—necessities that turn the London and Paris lanes toward nightfall into the haunts of the prostitutes, humming and whistling and accosting the stray bachlor or the sexually hungry foreign visitor. Happily such an institution is a thing of the past in these countries. I was told of it in India, and the claim was repeated in Moscow. But it was hard to believe ; and I was prompted to move out at night into the lanes of the big cities to verify the truth of this claim. Could you imagine the measure of my joy, when I did not come across even one prostitute in any capital or university town of any country called "Socialist." The reason is patent : the Government has provided work to each citizen—male and female—and this work is remunerative enough to enable him or her lead a decent open life ; and where there is decent employment for each man and woman there is scarcely any room for prostitution. This, however, does not mean that the socialist citizen is above human urge. The urge is there but it has to be met through marriage duly registered. A boy can visit the house of the girl he loves ; he may sleep there ; but then he must marry the girl he has touched, else there is a prison to greet him—and the socialist prison is proverbially deterrent. No restrictions on love-making ; no checks on courtship. Even a Negro is welcome to have it ; but the heavy responsibility of marriage is there—and the socialist citizen has learnt the value of shouldering responsibility, if he has fully learnt any one thing from his Marxist regime.

It may be out of place here to record my impressions about communism and the methods of inculcating it. The philosophy

of communism is based on material plane of life and it appeals to those who want a better way of life for all. It is a sort of infection; a highly imperceptible national permeation, partly audeo-visual, partly radio-communicative, having less to do with the book-work, that takes away the initiative of the man. It is a sort of national training, a sort of silent national movement, touching all levels of society alike; and it is working wonderfully well in those countries. But then their workers are devoted; they have an ambition and a mission in life—and that mission is the material uplift of the common man.

But then you can say that in such a socialist society there can be no room for individual initiative and no scope for fundamental research and invention. You may be seemingly right, but only seemingly because you have not grasped well the fundaments of the reformed communism. It is not blind equalisation of all; it does not pull down the scientist from his high pedestal to put him on the level of the ignorant farmer. The process is exactly the reverse. The farmer or labourer is provided with all his material necessities and he is worked up to the higher level; and it is now from these trained worker-scientists that you are getting all these wonderful inventions in science and technology. Remember the scientist is paid the highest in the U.S.S.R. and there can be no conception here of the measure of respect he commands. Dr. Ram Kumar Verma, a Reader in Hindi at the Allahabad University getting 9000/- (Nine thousand) Rubles P.M. is an example; and you know well how a University Reader is treated in this country.

There is a bogey raised by the capitalists that the people of the socialist countries are living behind Iron Curtain. During my solitary long walks and frequent distant visits—all alone—I never noticed any such curtain. The ordinary man of these countries gets proper shelter, enough wholesome food, protective clothing, free education for his children, free medical aid for his family, virtually free entertainment in its various forms, and that too on the highest artistic scale; and he is satisfied; and he does not bother as to what is happening in the outside world.

Those visitors, who are themselves fond of the glitter of the city-life and are chary to move out far into the villages, are alone apt to complain of such an iron curtain; but for me, an enquirer, travelling far into the interior of these countries there was no such curtain, no restrictions, no spying, and no irritating checks ;—and I often talked to the people in the frankest possible manner, asking them about their hidden complaints, if they had any. What use is that unchecked liberty, which does allow people to indulge in worthless gossip or empty criticism, when vast majority of the dumb millions are still starving, are moving half-naked, have no shoes or slippers on their feet, village women in the Eastern U.P. have no choli to cover their modesty, and the vast labour class in your big cities spend these cold wintry nights on the pavements of your mansions ? It is the travesty of liberty indeed ; it is the caricature of that sacred goddess called "liberty". The sooner this country settles down to do hard solid work the better for us all.

True, that I did not come across in the U.S.S.R. English papers, published in India or abroad ; and I could not enough know about what is happening in the outside world ; but I saw with my own eyes the flight of the Sputnik in the Planetorium and that of the Lunik at Cracov ; and that was enough for me as a laymen ; and that is in reality enough for the socialist citizens of the countries behind iron curtain.

"Iron curtain"—if there be any—is a boon to these peoples. It enables them to live all alike, to live on a really human level, and to enjoy gifts of the bountiful Nature, which is being duly harnessed for the first time in history to the service of the common man.

But behind this so-called "iron curtain" the one thing I saw and felt deeply, and that too every moment of my stay there, was their most sincere love and regard for me, an extreme courtesy bordering on indulgence and this too simply because I was an Indian Professor speaking my heart to them and commanding in turn the very core of their heart—for they, both people and Government—assured me of their sincere solid support for our claim on Kashmir and that was a big thing for me, an

humble messenger of this great country. Remember, no Socialist courtry will ever extend its support to anything that is based on the socalled religion or on mere communal considerations ; and they know full well that the existence of Pakistan is based, and is being perpetrated merely on the socalled religious grounds. Let not India, therefore, permit any communal organisation or anything of that complexion on her sacred soil.

And then their ways and means of preserving this structure, which you are pleased to call "the iron curtain. Right from Beograd to the remotest fringe of Siberia the one socialist official language is Russian ; though even in Serbo-Croatian which is the idiom used at Zagreb, there are about 4000 (four thousand)) entries under Tagore and about 3000 under Gandhi and Nehru in their world famous Bibiography, which I had the good fortune to see on Jan. 17th. And although the various regional languages of the various socialist Republics are as rich—if not richer—as the Serbo-Croatian the universal socialist language everywhere is Russian which is infinitely superior to them because in it are translated, within one year of their publication, all the notable works from all the languages of the world. It was indeed a treat to see hundreds of devoted scholars busy doing this work in the world-famous Foreign Publishing House in Moscow. Surely this can serve as an ideal for this lingustically torn nation of ours.

There is a virtual nightmare in America about the growing might of the U.S.S.R. Prof. Edgerton and his wife, staying with me for some months at the B.H.U. in 1954, did not actually get enough sound sleep for it. They in the western capitals are hectic in their preparations against a possible Russian venture. I know too the vast implications of the famous American Strategic Air Command alert all the 24 hours on the world skies—but against whom are all these preparations ? The Russian is still busy building millions of apartments for his citizens. I have toured round Baku, Zagreb, Cracov and Tashkent for hundreds of miles, and everywhere on all sides, I was greeted with vast structures, extending for miles, still under construction. They at Baku are even extending their city towards the Caspion sea,

that is fast receding. So it is in Moscow, Leningrad, Minsk, Kiev, Warsaw, Prague and Beograd; this construction of apartments for labour and farmer, with alternate solid blocks designed to house "Schola Internats". Can it all stand the shock of the blasting steel? The Russians know it. Mr. Kartalov showed me the road near Kiev, by which the blasting German steel came to roll over their Russian homes. No Russian—man or woman—has forgotten that. They still fear it, and they sincerely pray for peace, so much so that on the gates of the vast public buildings on important crosses you read the inscription "peace to the world". But the socialists too have a right to live in the manner they have chosen for themselves. They too have a right to ask the oppressed peoples of the world to shake off their ageold traditional bonds, bonds from which the Russian has himself suffered for ages, bonds which were designed to keep the lowly ever under foot. They too have a right to extend aid to the backword mankind. But they sincerely want peace. But if some misguided adventurer mistakes their peace of love as their weakness, he will be repelled not by the fighting Russian armies but by every Russian atom, turned into a blasting bomb.

Friends have cautioned me against the growing might of China—and her possible venture on the Indian territory. Such friends were found in Jugoslavia and to some extent also in Poland. I have reasons to question their bonafides—for I know the Chinese situation too well to believe it, and I can also visualize the universal implications of such a venture. But if by chance such a thing ever comes to pass I should better work and live with the Chinese, who have themselves suffered for centuries than be, a second time, slave to those who once built their empire on Indian blood—and are now again manoeuvring to reclaim what they have everywhere irrevocably lost.

Far be it from me to sing the praises of any particular country or system; surely the heaven has not come down upon the socialist lands. They too in that part of the world are human beings; they too have their failings; but the failings they have are not the ones you single out as evil. They are there and they

are maney; but it will profit none to discuss them here. The germane point of it all is that they, in that part of the world, are carrying on a tremendous experiment on a universal scale; experiment that is fundamentally new because it is meant to raise the standard of the common man; to raise the standard of society by raising the standard of each man and woman; and they are eminently succeeding in it; though none of them enjoys the amenities of a Rockefeller, or of a Ford, or of a Nuffield—and that is the core of their political philosophy.

There is an opportunity for India to make a choice between the socialist mode of life—and be happy—and the capitalistic system of governing the famishing millions in the name of democracy and perpetuating thereby the society which makes private gain its supreme value. But the lessons of the world history are before us—they were long ago outlined by Spengler in his monumental study "Der Untergang des Abendlandes"; and they teach us that the tide of history has irreversibly turned in favour of the socialist pattern of life; and the vast majority of the Indian skeletons are now awaiting the rise of a younger Jawahar Lal to fight their battle afresh and win them real freedom, laden with plenty in all fields of human life. Let us awaken before it is too late and the mounting tide of world-events overtake us.

Our friends, the people who have faithfully stood by us in our struggle for Kashmir are anxiously watching our experiements with socialisation of our accumulated national wealth. I have intimately studied their mind and the mode of their life—and I have the honour of bringing to you their pledge for support, extended to me by the Minister of Culture of the U.S.S.R. on Jan. 20th at 10 A.M., when I had the privilege of meeting him as your devoted messenger.

SWINBURNE

G. D. SHASTRI

I

Perhaps no other English poet roused such hostile and at the same time favourable reactions by his poems as Swinburne. Even the early romantics—one and all—had to fight their way up to public goodwill. But Swinburne's case was so different from theirs: '*Atlanta in Calydon*' shot him up on the crest of fame. He was at once recognised as the chief poet of the new generation and eagerly coveted in high social circle. A year later after *Atlanta in Calydon*, was published the *First Series of Songs & Ballads*, and this brought him equal notoriety. Ever since then, he has been hailed and denounced as a poet, equally vehemently. Critical thought very often is linked with the intellectual and moral value of poetry, and bases its appreciation on the principle of sound subject matter. It is in a way inevitable to do so. Poetry, too, as expression of thought, is as much subject to the law of intellectual relevancy as is the case in any other field of speculation; and the poet is as much judged by his contemporaries by the effect of his thoughts on their morals and mind as any other man. This is the usual way, but it need not necessarily be the right way. That is the reason why contemporary reaction of an unfavourable nature against a poet is very often changed into warm praise a little later when the earlier literary and intellectual atmosphere has changed.

Swinburne, like any other poet, has to be judged not on the groundsof transient identity of views arising out of a common outlook or similarity of belief, but on the more fundamental basis of poetic truth and mission. The increasing materialism and atheism of the age had reached a point in the latter half of the century when it could not but come to a head. We can take the view that Swinburne was only the head and the point of that

agnostic and hedonistic cult that spread with the scientific progress in the 19th Century. This was amply demonstrated by the wave of consternation that his poems helped to raise amongst all those who still felt that reticence and moral sanity were not lost virtues, and the vehement and enthusiastic support which he received at the hands of under-graduates at Oxford and other younger men, for whom any kind of open defiance of existing taboos was an act of heroic greatness. Thus Swinburne became the object of adoration of the younger element in society, who took him as the oracle of the New Age : for them his was the voice of emancipated modernity : while, at the same time, the elder and the sober section of the people felt alarmed at the pernicious freedom of his language and sentiment. To such men he was no better than 'the libidinous laureate of a pack of Satyrs', in the language of John Morley (Saturday Review : Aug. 4. 1866). Swinburne's own defence was that his poems were only a protest against the idyllic and tender optimism of Tennyson. In a sense it may be true ; it cannot be denied that his '*Songs & Ballads*' had an element of surprise for the people in their departure from the idyllic and complacent atmosphere of Tennysonian poetry. At least in Swinburne there was the revolt of time in a new and naked form : but it is also a fact that much in these poems was frankly objectionable and indecent, which would require a good deal of casuistry to defend. In short, there is in these poems a display of such luscious voluptuousness as had never been before manifest. Pre-Raphaelite poetry had encouraged open and sensuous description of love, and Swinburne only used his brush more freely in laying the scarlet colour more thickly. Be that what it may, Swinburne had clearly established his pre-eminence as a prosodist. From the very beginning the music and melody of his numbers were ravishing : the mellifluous sweetness of his diction has hardly been suppassed by any other writer. And it is not only in the mastery and magic of word, as symbol of music, that he is incomparable, but he also revolutionised the entire scheme of English prosody. He will ever stand in the forefront rank of English poets, if not by the

substantial weight of his thought, by at least the verbal magic of his verse. His greatness in the skill and craftsmanship of versification has never been questioned. Rather his skill in this regard has sometimes evoked cynical disdain from the serious student of poetry, who believes that no great poetry could be anything but great thought. Large as his output is, his poetry suffers from lack of depth and variety of experience. Meredith's complaint that he 'lacked a central core' is not wholly unjust. Morris also felt that there was a 'lack of obvious purpose in his poetry'. The fact is that in his case the feeling is all in all: he is intensely swayed by the mood of the moment and allows it to take possession of his thought instead of making feeling follow the thought. Thus it is that his feeling after a brilliant display of rhetoric and music exhausts itself, and leaves in the mind of the reader a kind of vacuum. But within this limitation, Swinburne stands out as the chief protagonist of his age, as a poet of youth and freedom. The underlying spirit of his poetry is that of revolt. In *Songs & Ballads* he falls out against moral conventions: in *Songs Before Sunrise* the scope of his detestation is enlarged to include kings and priests. Thus in some form or other—his voice was raised in defence of freedom. The early romantic note of liberty was struck by him once again with all fervour, he sang the song of liberty in all fields—political, moral and sensuous. This was but the re-echo, in a more passionate and deeper form, of the earlier romantic poetry of Shelley and Byron, with both of whom Swinburne bore spiritual likeness. In fact, he himself thought 'there was much in common between me and Shelley'. Only Shelley's soaring idealism and his unbounded faith in the final triumph of humanity stand out in a sort of relief from the cynicism and materialism of the other poet. But in the utterance of his abiding hatred of tyranny and despotism and love for freedom, absolute freedom, Swinburne is nearer Shelley than any other poet. So far as his passion for liberty was concerned, Swinburne was consistently its undeviating and unflinching advocate. He represented the spirit of youth: its defiance of restraint, its impulsiveness and its zest for pleasure. It would be truer to represent him as having written

with wine of freedom in his head. His hold on the younger men of his own generation lay in the heresy and passion of his poetry. In itself this does not make for lasting influence, but in his case, the saving grace of beauty supplied by the music and melody of his verse and his ecstasy, lends to his poetry an abiding charm.

His lyrical skill is his greatest strength, for nothing brings him in line with the greatest of English poets so much as the peculiar blend of his genius which was lyrical. For of all departments of poetry, it is only here that the interest centres as much on the form of expression as on the feeling that it arouses. It is only a prejudiced mind that would question his facile command of words—a command which was supported by an unfailing instinct, an inborn genius, no less than by a deep reading of classics. For Swinburne was also a scholar well versed in old classical masters. It has been suggested that his inspiration was derivative: he drew his sustenance from literature: from the Eli zabethans, from the Hellenic, from the French. There is nothing wrong and surprising in this. It need not, as sometimes has been charged against him, detract from his greatness. For his manner was not imitative. He brought to poetry a spirit entirely his own, and a method even more individual than his spirit. Both in his manner and matter of utterance he shows a marked individualism. There is a pliancy in the dreamy rhetoric of his language, which almost benumbs our senses with its alliterative and rhythmical melody. This element of rhetorical beauty is ever present in every poem, early or late: and is his chief characteristic. The garb of language is made of the finest tissues, which his fancy can spin: and in so far as the lyrical spirit is inalienably associated with music, his verses have it in abundance.

Only the passion that they sometimes embody may fill the reader's mind with doubt or misgivings, if he has not already undergone a baptism of moral conversion. For his is the gospel of neopaganism in open defiance of Christian standards of restraint. His epicurianism is preached with unblushing frankness and Venus & Bacchus occupy too large a place in his pantheon to leave

any room for the other gods. His power over the resources of the English language is unquestioned: but his language, with all its opulence and splendour, does not afford sufficient food for our souls and intellects. This is a serious deficiency of his verse.

II

The distance between Swinburne and earlier Victorian poets is a measure of the rapidly changing social complex of his age. Between 1809 when the first of the Victorians, and in a sense the greatest, Tennyson was born and, 1837, the year of Swinburne's birth, a full cycle had turned, and in these 27 years which separated the two, an atmosphere of intellectual and moral freedom, such as was not prepared to accept any kind of conventional compromise with thought or morals, had been created. A gulf was dividing the older generation which, in its own way, had prided itself on advanced thinking from the young, which was tearing to pieces every kind of restraint and discipline on thought. Swinburne voiced the challenge of the rising generation and more than any other poet, he alone represented the youth of the day in his impatience and impetuosity for every kind of freedom. Once again the love of freedom, so much loved and adored by the Romantics had become the life passion of the newer generation whom Swinburne represented, only this time freedom was of much wider implication, and did not include only political liberty but was inclusive of moral and aesthetic freedom as well. To understand him well, therefore, is to understand the forces at work in the social life of England brought about by advancing science and mechanized industrialism with all their resultant reactions on thought and belief of man. The early Victorian attitude to life was nothing but a passive acceptance of the change which increasing knowledge of science had brought about. It had used the new forces for its own material advancement and had not much bothered to worry about its consequences. It wanted all the plums of prosperity which growing wealth had given, and while paying a lip service to religion and morals had not much cared for the progressive decline of man's

fundamental faith in God. The Victorian attitude was one of self-complacency, of putting a lid on unpleasant features of life, in the hope that somehow or other things would right themselves in the long run. This complacency was there and withal, they made a virtue of it. There had already been a questioning of faith, an assertion of doubt, a statement of disbelief—a declaration of intellectual freedom. But this had solved no problem of man. On the other hand, this had only led to his increasing bafflement. Intellectual agnosticism had only created a moral vacuum, and man lay wondering between a world that no longer existed and one that he had not been able to create. The young intellectuals of the mid-century gave free-utterance to this spirit of despondency but they still clung to traditional moorings. They were not prepared to discard altogether the restraints and reticences of an older world in which they did not always feel at home.

But a new generation was taking birth which seriously began to challenge the infallibility of tradition and which demanded its right to think and talk in its own way. The Pre-Raphaelites had struck on a new path of revolt against conventional and stereotyped rules of art; and Swinburne carried the compaign further in the realm of morals.

What then shocked the more conservative, or what pleased the more unorthodox, was the manner in which Swinburne gave full articulation to those sentiments which by a common convention of society, were supposed to lie outside common talk. Swinburne defied social reticence and spoke freely. Naturally, the naked eroticism of many of his poems sent a thrill of shudder or joy through many hearts according to their own individual reactions. At least if nothing more, a shock had been administered to the smug complacency of the older Victorians who talked of virtue without necessarily being virtuous. Swinburne's poetry brought to a point the already existing spirit of dissatisfaction and difference among the younger: he no longer spoke with doubt or voiced the sentiment of despair. On the other hand, free thinking and want of faith were in themselves an advancement in thought, as viewed by such people, who did

not hesitate to use a more direct and realistic language to express unvonventional but genuine feelings of their heart. There was a touch of cynicism in all this, but it was fresh and novel and, therefore, shockingly pleasant.

III

It has been suggested that he needed some kind of stimulus before he could be galvanized into poetic activity. Much has been made of his inspirational dependance for poetic themes. It would be too much to deny him any originality, though it is true that he did receive a kind of impetus from his reading. But having obtained his cue the rest was his own.

What has puzzled men however, is the exuberance of music and melody with too little of direct social awareness in him'. The dictums that Great poetry is great action, or that Poetry to be great must be a criticism of life, are not without their value. In his case, they come out with peculiar significance, for Swinburne is more a poet of impulsive effusion than of sober reflection or sublime action. He has the gift of language to clothe his moods in webs of subtle music, but nothing more. One feels that the love of music carries him out of himself, and he is prepared to sacrifice everything to it. That the power of his mucical diction is not only great but titanic cannot be with-held from him : but equally true it is that it is not always wedded to sound social purpose. There is an originality in his rhythms, and in the employment of verbal symphony, but this being carried too far leaves but a sense of satiety in the mouth owing to its unreality. Poetry must in the ultimate analysis cater to the spiritual need of man. It must bring to him a sense of relief and joy, a feeling of moral well being, and a proper understanding of himself. It is in this just insight into the nature of things which poetry affords that its universal strength lies. It is on this test alone that all real poetry has to be judged. Otherwise, poetry will and does degenerate into a clever use of rhymes or sounds. All great poets have perforce to be great thinkers. Victorian poetry at its best is both intellectual feed and aesthetic fulfilment, but it need not necessarily follow

that the great Victorians were always animated by supreme vision. Very often they saw at life from defective angles and got a blurred view. They got entangled in petty matters. Or, as in the case of Swinburne, the power of verbal artistry and the mood of disaffection with prevailing and accepted belief and view proved too much for the poet to rise higher than mere personal feeling and take a long and lasting view of things. Mere defiance is negative ; it must be harnessed to some positive human need. Swinburne's poetry, great in external qualities of language, is not equally great in the depth and intensity of soul-stirring thought.

One is lost in the mere wordiness of the poet whose music and melody are greater than his capacity to satisfy the soul with everlasting and abiding thought. His strength lay in metrical and verbal arrangement rather than in inspired perception of truth.

अयं मे हस्तो भगवान्

(ऋग्वेद १०।६०।१२)

आज हमें एक नए भगवान् की आवश्यकता है, जिसका अर्थ है आत्मोद्धार के लिये भगवान् के किसी नए रूप के साक्षात्कार की सक्रिय आस्था। स्वर्ग और मोक्ष के आकर्षण कुछ लोगों को अपनी ओर भले ही खींचे, पर जन-जन को उठाने के लिये तो कर्म की दर्शनी हुंडी सकारनी होगी। उसी कर्म-मय जीवन का मंत्र यह ऊपर लिखा है। आज इस जाग्रत विश्वास की आवश्यकता है। यही हमारी एकमात्र पूंजी बन सकती है। नारायण या ईश्वरी तत्व की आराधना कर्म के रूप में सबको करनी है। वह कर्म हमारे इन दस उंगलियों वाले दो हाथों में रत्नों की ढेरी के समान भरा है। वही मूल्यवान् सम्पत्ति हमारा आराध्य देवता है। यह मेरा हाथ ही मेरा भगवान् है, ऐसा जो मानता है उसके भगवान् का मंदिर वहाँ सर्वत्र है जहाँ कर्म कर के पसीना बहाने का पवित्र यज्ञ चलता है, जहां मानव श्रम के द्वारा उत्पादन में लगा है, जहां श्रमिक की प्रतिष्ठा है, जहां भारती महाप्रजा हाथों के स्त्रुक्-सुवे से कर्तव्यकर्मों का सत्र पूरा करने में लगी है।

भगवान् को हाथों की वेदिपर साक्षात् करने का नया संकल्प हमें लेना चाहिए कोई दूसरे की ओर क्यों देखे, दूसरे की आलोचना-प्रत्यालोचना का न समय है, न अवसर, क्योंकि वह कुंठा का मार्ग है। अब तो अपने ही प्रयत्न से नए ईश्वर के दर्शन करने हैं। इस नूतन पाणिवाद की महिमा और सब राजनीतिकवादों से ऊपर है। कृषक, श्रमिक, व्यापारी, छात्र, बुद्धिजीवी, नेता, जनता-कोई ऐसा अभागा न रहे जिसे भगवान् के नए रूप का दर्शन न मिले। ये भगवान् हम सबकी मुठ्ठी में हैं। उन्हें यहीं पहचानना होगा। दूसरों के लिये उपदेश हर एक की जिह्वा पर है। पर जो वस्तु चाहिए वह अपनी मुठ्ठी में भरा हुआ कर्म है। ये दोनों हाथ देवों के दिए हुए दो वरदान हैं, एक से अपने को सुखी करें दूसरे से स्वबन्धुओं को। मानव और समाज का हित यही है। शासन का मार्ग पाणिवाद का दर्शन नहीं सिखाता—वह तो आदेश देकर कुंठित रह जाता है। पर सर्वोदय के पास सेवा ही एक मात्र कार्य-साधक है। जो इस पथ में आता है उसके लिये यह नया दर्शन है—

कृतं मे दक्षिणे हस्ते जयो मे सव्य आहितः। (अथर्व)

वासुदेवशरण अग्रवाल

THE EGO-IDEAL: A PROBING TECHNIQUE

S. S. JALOTA

Why does a human being move? *Whither* does he direct his actions? *What* are our goals or aims, and *how* are we motivated? These are some of the questions which confront all of us in our everyday life. We are partly assisted in our struggles for existence and social adjustments by the precepts and examples available from our traditions and history. Occasionally we think out the *pros* and *cons* of our problems, and decide upon our course of action. However on several occasions our choice is determined by the habits of our thinking, feeling and desiring. From our very childhood, it is our good fortune to be told that God is all powerful, and it is our duty to respect Him and offer our worship and homage in the temples. We learn to say 'thank you, and 'glad to meet you', etc. on suitable social occasions. We feel happy when our parents are praised, and we feel sorry when our college team is defeated in a tournament. We wish to obtain social approval, and generally aspire for advancement in status and prestige. We do so largely due to the patterns of habits acquired by us in the course of our life.

However, there are many occasions when the situation before us is too complicated for easy solution. Although baffled in our wits, we yet attempt some tentative partial adjustments. On other occasions, though we usually make fairly successful responses to the given situation, but we continue to feel dissatisfied. In our self-critical moods we deplore the outbursts of misplaced enthusiasm, or feel surprised at our unaccountable worries over trifles. It seems that there are little known or practically unknown aspects of our modes of thinking, feeling as well as willing that lie hidden; but somehow they do influence the mainsprings of our daily activities. We are usually aware of the potentialities of these *non-conscious* processes only when they intrude into our ordinary life, and disturb its normal ways of behaviour. When they assist in the smooth running of the

general give-and-take of our daily tasks, we do not ponder over them. The not-conscious aspect of our minds was at first assumed to consist of more or less repressed *complexes*, due to the accidents of conflicts and other misadventures. However, it was very soon considered from a dynamic point of view to explain the 'why' and 'whither' of human behaviour, and throw an indirect light on the 'how' and 'what' of the mechanisms of social adjust -ment. It was assumed that there is a dynamic system of the unknown wishes, feelings and thoughts, where the wishes were more urgent than definite; and the thoughts too were vague and indefinite in directing the on-rush of these non-conscious impulses. This system was collectively described as the *Id* (or IT). It was supposed to be primitive and biological in origin, eager for *pleasure* with scant respect for the social regulations and impatient for immediate satisfaction. It appears to typify the behaviour of a pampered infant exhibited during the tyranny of a tantrum. In terms of adult-attitudes one could somewhat describe it in a poet's words: *Dekhi jahāṇ tari, vahiṇ phisal paṛe* (At each perception of some moist luscious flavour, I slip towards it). Or again, "Hai dilalagi se kāma, jahāṇ kahiṇ sahi (I am interested in enjoying, wherever it may be). But the temptations of the pleasure principle, have to be overlaid with the conventions imposed by social manners, for the sake of a *real* satisfaction in our social milieu. When the hungry child wants and clamours for food at an in opportune time, he is more likely to get threats and punishment than any satisfactory nourishment. The growing child learns to curb his biological urges for hunger, thirst and restrain the tensions for excretion, etc., to suit the customs and regulations of his family and culture. This conscious apprecia-tion of the situations that permit the proper satisfaction of hunger, thirst and the relief of other biological tissue tensions, in due course develops a hierarchy of wishes with adequate shades of feelings and it appears to impose an order on the rabble, the crowded mobs of the individual's needs and their natural ex-pression. This is a system, where *conscious memory* organises and links together the different experiences of satisfaction and frustrations; it is quick to note the signs of domestic strains and

stresses, and is highly sensitive to occasions that promise advantages and favours or their opposite. This organisation of conscious thoughts, feelings, wishes and ideals is described as the *Ego* (or self), of the individual. Its area seems to coincide with the field of the individual's memorial effort.

At one time it was assured that the *ego* is the effective *sum-total* of the individual's conscious experiences of knowing and feeling, of wishing and acting. A certain dynamism was imported later with the belief in various types of dispositions to know, to feel and to desire or act. Such dispositions are cumulative in character due to the interplay of the *traces* of experiences gained from specific objects and situations, and appear in our developed attitudes towards different persons as well as our bio-social problems. However, this is a dynamic picture of more or less different and identifiable psycho-physical dispositions. A more comprehensive view is available in the dynamic inter-action of the Id and the Ego. The *Id* is the source and storehouse of biological urges, practically blind and intensely imperative for *some* satisfaction; and the *Ego* is in perpetual interaction with the id-impulses, accepting a few, but modifying, curbing and controling the gratification of others. A *real* satisfaction of all urges, and a real relief for all tensions is possible only through a more or less conscious activity of the body in relation with its environment of persons and things. For example, if we feel hungry, and merely indulge our appetites in imaginative fantasy, that may yield some partial psychological satisfaction. But it is only real food, that could give real gratification to our hunger; and that would need our bodily actions for the procuring of food and its consumption.

We have referred to the modification of some id-urges and the rejection of others by the ego. This implies that there are sufficiently strong ego-impulses that can successfully conflict with and deflect or constrain the rampant masses of the id-impulses. The ego itself is more easily appreciated as a conscious accompaniment of the id-impelled bodily adjustments. Hence, it becomes necessary to locate another source of sufficient strength

and urgency that could contribute to the regulative functions of the cultured ego. Thus the meta-psychology of Freud assumes a system of *Super-ego* impulses. This implies that there are impulses of a regulative character, and that these are sufficiently organised, to cope with the common formations of the id-impulses when they appear in the conscious arena of the Ego, as also to keep them in check within the non-conscious areas of the Id. Hence, it was assumed to be of a complex conscious origin, but with strong out-posts occupying in depth, and scattered throughout the extent of the non-conscious regions of the Id. There is indeed a speculation based partly upon the diurnal and seasonal rhythms of animal behaviour, and partly upon the biological need for the maintenance of the organism and the necessities of its self-preservation or *homeostasis.* Thus we have an assumption of a 'regulative aspect' and a corresponding form and potency of some basic biological impulses and tensions. These basic regulative impulses are reinforced with consciously known and acquired impulses obtained through the precepts of the parents, and the preachings and practices active within our traditions and culture. These moral ideas, feelings and aspirations in due course penetrate into, and acquire a status within the non-conscious structure of the individual's mind, and they form the moral *echelons* that are engaged in perennial hostilities with the amoral id-impulses. Thus the content of the Super-ego is formed by the dispositions created by the individual's impact with his familial, social and cultural ideals. So sometimes this mental system is considered to be better described by the term *Ego-Ideal.*

It may be noted here that the use of language is extremely important for thinking. Indeed the pre-linguistic thinking of the child is very limited ; but with the development of his language-ability his thinking increases rapidly. At the same time, he begins to understand regulative suggestions and commands, and often he assimilates them without critical analysis or understanding. He also incorporates attitudes for or against given behaviours. Thus starts the growth of his Ego-ideal and gradually the child becomes amenable to moral exhortation as well as to paternal discipline. It seems as if the constituents of the ego-ideal are

ideas intimately mixed up with strong feelings and urges, all of which are tagged on to certain words or phrases. A convenient illustration is to be found in the slogans of the political parties. A whole gamut of explosive feelings and attitudes are packed into the given slogan; *e.g.* the free world; the iron curtain; produce or perish; Liberty; Democracy; etc. There is the well-known technique of free-association to probe into the non-conscious regions of an individual's mind. It is primarily based upon the fact that 'words' are not merely associated with other words because of meanings and contiguity of experiences, but also as vehicles of feelings and attitudes. This technique of psycho-analysis is followed in principle, but in a modified form to uncover deep-rooted cultural patterns of different individuals and groups. If we ask children (or adults) to give their preferences by ranking a few names of historical or traditional personages; then the common pattern of the said hierarchy could point to the relative status or strength of the corresponding qualities or attitudes. However to make sure, we could also ask them to rank a list of given qualities in the order of their personal preference. Thus we could assure ourselves of the facts, by checking the hierarchy of heroes with the hierarchy of preferred qualities.

We have been interested in probing into the contents of the ego-ideal of Indian children, rather school-children in Banaras. As the elements of morality are obtained from both the parents, one may suspect that there may be more or less different attitudes towards heroes and heroines, or towards the patterns of masculine and feminine qualities. Again the possibilities of development in the pattern of one's Ego-ideal with age, should be reflected in a comparison of the above-said hierarchies from different age-groups. One of our research students in Psychology Mrs. P. D. Pratap has been working along these lines for some time (Res. Project No. 24-54). The possibilities of success with such techniques can be readily estimated from some of her results. She divided her data into *three* convenient age-groups: (i) 12 yrs. or *lower* (the pre-adolescent group); (ii) 13 yrs. to 16 yrs. (the adolescents); (iii) 17 yrs. and above (adults). In the first

group she obtained preferences from 150 boys and 100 girls; in the second group. She got 200 boys and 160 girls; and in the adult group she was able to secure 150 men and 100 women. Each individual was provided with a printed pamphlet containing a page for practice, giving a solved example indicating preferences for a list of 6 fruits, followed by a solved list of 6 qualities of a mango with their preferences. On the next page, there were two lists of names of heories and heroines,. and the children instructed to rank them according to their preference for the 'personality' of the given heroes, etc. On the last page, there were two lists of 6 qualities each to be ranked for a *mahāpuruṣa*, and an *ādarśanāri*. The preferences for each of these 4 lists were pooled and arranged along a comparable scale with a 'meaningful zero-point', and a common 'standard deviation' by using the *composite standard method* (Guilford). Let us consider a few results (see Table I):

Table I, giving the scale values for a part of the ranking data of *heroes* and *ideal qualities*.

Ranked Heroes/Qualities	Age upto 12 yr. *Boys*	*Girls*	13 to 16 yr. *B.*	*G.*	17 yrs. *B.*	*G.*
Ramchandraji	6.55	4.56	6.06	5.68	6.00	5.48
Mahatma Buddha	4.33	1.81	4.78	4.69	4.60	4.69
Maharana Pratap	3.62	1.27	3.59	3.26	4.00	3.28
Bhimsen	2.31	0.82	2.04	1.50	1.05	1.56
Pativrata	4.74	4.78	5.50	5.11	3.52	4.98
Buddhimatta	4.90	5.39	4.29	3.13	3.56	3.85
Desabhakti	6.19	5.52	5.46	3.97	4.42	4.86
Soundaryya	3.20	0.98	3.17	2.19	2.20	3.63
Number	150	100	200	160	150	100

The personality of Ramchandra is most preferred by all the groups, and the next preferences are for Buddha, Pratap and Bhimsen.* But while the preferences of the *boys* for *Ramchandra* place him at the position 6.55, 6.06 and 6.00 for the different age-

*We will consider here only these four.

groups from the youngest onward, the preferences for him by the *girls'* groups are lower being 4.56, 5.68 and 5.48 respectively for the corresponding groups. We see that for the boys advance in age towards adolescence leads to a negligible lowering of status for this hero of myth and tradition, though he is given a constant status afterwards; but there is a sharp increase in his status for the group of adolescent girls, which is only slightly reduced in the later group. The personality of *Buddha* is put by the *boys* at 4.33, 4.78 and 4.60 for the said age-groups, implying some increase at the adolescent level and a slight falling off with the adults. But for the pre-adolescent *girls*, the preference for Buddha is rather low at 1.81, which however increases remark ably to 4.69 during adolescence and remains constant later on. On the other hand, *Pratap* occupies practically the same status during pre-adolescence and adolescence with the *boys*, being at 3.62 and 3.59; but it's prestige rises with the adults to 4.00. The *girls* however show a marked increase for his patriotism during adolescence (raising it from 1.27 to 3.26), with a negligible change later on. The case of *Bhimsen* has its own peculiarity: with the *boys* he loses steadily from 2.31 to 2.04, but is quite low at 1.05 with the adults. But the *girls* pull him up from 0.82 to 1.50 during adolescence, and take him to 1.56 later on.

The above illustrations throw some light on the potentiality of this technique. We will reinforce it with a brief reference to some qualities of an ideal woman: *Pātivrata* (chastity) is put by the *boy's* groups at 4.74, 5.50 and 3.52 respectively. It seems the high estimation of the adolescent boy is greatly inverted by the adult. The *girls* indicate a similar rise and fall (from 4.78 to 5.11 and 4.98), but the distance covered by the change is fairly limited. The quality of *buddhimattā* (intelligence) appears to lose ground with the *boys* steadily from the younger to the older age-groups being placed at 4.90, 4.29 and 3.56 respectively. With the *girls* also it shares a sharp fall during adolescence from 5.39 to 3.13, but it manages to recover a bit with the adult women reaching up to 3.85. *Deśabhakti* (loyalty) occupies a high position with the pre-adolescent *boys* at 6.19, but it steadily declines to

5.46 during adolescence and reaches the low figure of 4.42 at the adult level. With the *girls* however, though high at 5.52 in the earliest stage, it falls sharply down to 3.97 during adolescence, but recovers equally fast to reach 4.86 at the adult stage. Lastly, *soundaryya* (beauty) attains the low value of 3.20 with the youngest *boys*, and slips to 3.17 with the adolescents, and further falls to 2.20 with the adults. On the other hand with *girls*, though it is only 0.98 with the youngest group, it acquires the medium status of 2.19 with the adolescents and jumps up to 3.63 with the adults, almost rivalling with intelligence that is 3.85 at that stage.

The changes that we notice in the patterns of the constituents of the Ego-ideal among boys and girls, or with the development in age from the pre-adolescent to the adolescent stage, or from adolescence to maturity seem to easily fit with the common theoretical expectations. So it may well be believed that with the extension of this technique one could obtain a fairly reliable glimpse at the collective ego-ideal of a given group. This would lay bare the various forces that play upon the individuals with greater efficiency at certain stages of their development, as also the course that psycho-dynamics attains from time to time.

GEORGE BERNARD SHAW, THE ICONOGRAPHER OF CREATIVE EVOLUTION

B. L. SAHNEY,

Bernard Shaw was one of the most powerful and stimulating influences of our age. He was one of the most towering personalities of our time. His height, without shoes, was six feet one inch, and he towered over his contemporaries not only physically but also intellectually, morally, and spiritually. His personality was a singular blend of various strains such as Celticism, asceticism and Protestantism. His Celticism is apparent in his verbal jugglery and his inexhaustible wit. His asceticism reveals itself in his vegetarianism, his hatred of romantic love, his scorn of pleasure, and his devotion to strenuous work. His Protestantism manifests itself in his frank individualism and his indefatigable zeal for reform. He was the most vigorour protestant against intellectual indolence and morbid sentiment. He was the inveterate adversary of complacency, both personal and national. He was an ardent social crusader of our century. Satire was his sword, humour his armour, and unfailing commonsense his invincible battleaxe. He battered at the doors of pride and prejudice and emancipated the imprisoned progeny of truth. He was one of the clearest-headed and most humorous of modern thinkers. Frank Swinnerton has rightly said that what distinguishes him from all other men is his marvellous combination of Irish clear-headedness and English humour. He was an intellectual of the rarest order, an intellectual who had understood life to its lowest depths and its loftiest pinnacles, an intellectual to whom all ideas were, in a sense, foreknown. He was a perfect synthesis of many an antithesis, a meeting point of many extremes. He was a serious humourist, an individualistic socialist, an artistic puritan, a free-will determinist, a religious atheist, and a practical mystic. He was a scientist in respect of his marvellous capacity for analysis and also for seeing things as they really are. He was an artist who could produce the illusion of Reality by means

of appearances. He was a revolutionary moralist who saw things as they should be an passionately preached many a doctrine for the betterment of humanity. Above all, he was a prophet who had a penetrating insight into our times, who poured out the vials of his wrath on our interminable hypocrisies and vices without end, who had a vision of the future Superman, the Messiah whose advent would usher in a new earth and a new heaven, and who foresaw the one far-off Divine Event to which the whole creation moves.

Before he took to the writing of plays rather late in life when he was about thirty-five, he had been by turns a clerk, a novelist, a Fabian socialist, a witty and voluble public speaker, a journalist, and a critic of music, painting and the drama. In music he was an ardent advocate of Wagner and in drama of the Norwegian Ibsen. It was his dramatic criticism which by its originality of thought and vitality of style first attracted public attention to him. The four novels which he wrote between 1879 and 1882, *Immaturity*, *The Irrational Knot*, *Love Among the Artists*, *and Cashel Byron's Profession*, which he later called the "Novels of my Nonage", were rejected by every publisher in London, though they saw the light subsequently in obscure periodicals of socialistic sympathies. They are marked by liveliness of style, bold and dramatic delineation of character, irreverent handling of treasured institutions, emotional frigidity, and crude socialism. *Cashel Byron's Profession* is by common consent the best of them all. Discussion of serious ideas, exposure of social evils, historical characterisation in the light of the modern comic spirit, exposition of the philosophical and religious aspects of life, social satire, and presentation of the contemporary political scene are some of the leading *motifs* of his plays.

Shaw ranks among the greatest wits in the English language. His plays abound with scintillating exhibitions of verbal sword-play, clever manipulations of maxims, startling paradoxes, and brilliant sallies of the mind. But beneath his wildest with we invariably discover an unusual wealth of wisdom. His wit is never an end in itself, nor is it a mere ornament intended to set

off an otherwise unimportant idea. It is the pointed conclusion, the culmination, the very apex of the thought. It does not depend so much upon verbal felicity as upon the logical process of thought seeking significant form and expression. It does not simply please and titillate, it also moves and excites. Here are a few specimens of his wit:

1. "He who can does; he who cannot, teaches".
2. "Home is the girl's prison and the woman's workhouse".
3. "Do not do unto others as you would that they should do unto you. Their tastes may not be the same".
4. "Woman reduces us all to a common denominator".
5. "Englishmen will never be slaves; they are free to do whatever the Government and public opinion allow them to do".

It is this combination of wit and wisdom which gave Shaw his commanding position in all countries. With the exception of Shakespeare no dramatist has made a richer contribution to the delight and edification of mankind.

Shaw was one of the most daring practitioners of 'the social drama', and of the drama of ideas. His most distinctive characteristic is a fearless, almost remorseless intellectual criticism. He tears off the thick veils which conceal the grim realities of modern life. No social critic has exploded so many current beliefe and popular ideals as Shaw. And he possesses an unrivalled genius for animating mere abstract ideas, for making them live like concrete realities before our eyes, and for setting them up against one another, so that an extremely interesting and instructive drama is born out of their conflict. And he satirises the orthodox values of life by throwing upon them the light of common-sense and irresistible comedy. No writer has ever been more ruthless in his attacks on the idols of the day. He is an iconoclast through and through. And yet it must be said to his credit that he is never personal. He has attacked almost everything, but he has never attacked persons. He fights not

for himself but for his ideas. Nobody ever hit harder but nobody, too, ever wounded less than Shaw. Gilbert Murray says: "With all his wit and satire I never heard Shaw say a spiteful thing or bear personal malice after a battle". He was, indeed, the most serious and yet the most magnanimous of laughing philosophers. So irrepressible was his sense of the comic that he could always inject laughter into everything he touched, even into the most unpromising material such as slums and prostitution. And the recipe was quite simple so far at least as Shaw himself was concerned. "I found", he says, "that I had only to say with perfect simplicity what I seriously meant just as it struck me, to make everybody laugh. My method is to take the utmost trouble to find the right thing to say, and then say it with the utmost levity. And all the time the real joke is that I am in earnest". But even his most ferocious attacks abound with good humour and humanity.

Shaw's plays are almost all of them comedies. There is only one play which he calls 'A Tragedy', namely, *The Doctor's Dilemma*, which borders on the tragedy of untimely death, of jealousy, and the quest of beauty in an age of false values. But even about this play Maurice Colbourne writes in *The Real Bernard Shaw* that "It is almost certainly the most hilarious tragedy in any language". By reason of his strong sense of the ludicrous and his incorrigible optimism Shaw was constitutionally incapable of writing a tragedy. As a writer of comedies his special technique consists in adjusting social and political discussion to clearly drawn, humorous characters, and a fairly well-designed plot, though it cannot be denied that his characters, particularly in the later plays, become shadowy, that his plots are lacking in design and that there is an utter lack of action or that, if there is any action at all, it is arbitrary and spasmodic, so that the plays turn out to be little more than dramatic dialogues. But his sense of the stage seldom fails him. The Shavian comedy is, as a rule, centred in an idea or often in a controversy. The essential pleasure of comedy, which arises from a sense of incongruity between a character's real self and imatined self, is distilled in an unexpected

revelation. Unlike the masters of the old comedy who took care to see that their audiences perceived this incongruity from the very beginning and enjoyed the joke, Shaw often ventures to throw dust into the spectators' eyes, leads them on to the wrong impression, and then suddenly reveals the truth, with the result that the shock of surprise thereby ministered to the audience is infinitely more delightful than it otherwise would have been. Further, he pretends to be an anti-sentimentalist who sees things as they really are, as any man with a perfectly normal eye would see them. And under this pretension he introduces us to a world of romance and fantasy, a world in which contemporary habits are reduced to transparent simplicity. The Shavian comedy may be defined, says Prof. H. V. Routh as "The comedy of humours complicated by socialism and one's duty towards one's neighbour". It needed a very clear thinker to do justice to all three aspects at once, and even Shaw, inspite of his uncommon clear-sightedness, does not always succeed. He loses at times his sense of proportion and his power of self-criticism, and he often fails to strike the balance between propaganda and pleasantry. He used the stage as a mirror in which conventional people could see a clear reflection of their real selves and realize how they appeared to others. He was a pioneer in the technique of stagecraft. He externalised what is known as the 'internal monologue' even before it was invented. He abolished the 'curtain', the 'aside', and the 'one-man play'. He introduced the arts of conversational argument, and elocution disguised as self-control. When Shaw began his career as a dramatist the theatre was given up to the production of frivolous and immoral plays. He vitalised the whole atmosphere, gave to play-writing a strong and vigorous tone, and added to it a spirit of broad comedy. He employed all the devices of stagecraft to give his plays attractive and realistic settings. He elaborated his stage-directions till they became almost as important as the dialogue itself. He converted their crude jargon into literary delights. By elaborating his stage-directions in the way in which he did he may be said to have bridged the gulf between the novel and the drama. Above all, he saved the stage from the swaddling bands of the con-

ventional and the sentimental. His plays, on the whole, produce on the reader's mind an impression of rare unity achieved by the spontaneous, unconscious operation of creative genius under whose mysterious touch all the component elements of plot, characterisation, dialogue, and stage- directions become things of beauty and of joy for ever.

He found the fashionable English theatre in an intolerable condition. It had only one subject, namely, that of clandestine adultery, the dullest of all subjects for a serious author as well as a serious audience. The stage was a place of shallow amusement, and the business of the playwright was merely 'to make unwholesome confectionery out of cheap emotions'. Shaw exploded 'the sweet-shop view of the theatre' and gave it intellectual seriousness, emotional intensity, moral dignity, spiritual exaltation, and an almost infinite variety of subjectmatter. He put an end to the mechanical tricks of Parisian construction which had disfigured the dramatic technique of the time, revived the classic comedy of manners, and in a series of plays, notably in *Man and Superman* and *Back to Mathuselah*, gave an imperishable literary expression to the conception of Creative Evolution which is the religion of our century, and thus triumphantly fulfilled his natural function and sacred mission as an artist. Little wonder that his place in the history of English drama is second only to that of Shakespeare.

We value Shaw not only for his commonsense, his artistry, and his insight into the follies and foibles of our species but also for his philosophy. He was no mere disillusionist but a constructive thinker of the highest order. As Prof. Joad has rightly pointed out, he was a philosopher not only in the sense that he was a dispenser of memorable wisdom on a vast number of perennially important subjects but also in the sense that he sought to present a coherent and comprehensive view of the universe as a whole, of the position of human life within it and of the way in which human life ought to be lived. He was in part the exponent and in part the originator of the philosophical doctrine of Creative Evolution. His services to contemporary thought

are, indeed, many and inestimable. He was the lifelong enemy of addle-pated romanticism. He repudiated the mechanistic view of life. He killed the monster of scientific determinism. He disproved many an error and exposed many an abuse so that Right may prevail and Truth may triumph. He killed the giant of pessimism that loomed large over the horizon of western thought and he nerved the will of man for a life of lofty aspiration and noble endeavour. He expounded the vitalistic doctrine of Creative Evolution. Put in brief and in non-technical language, this doctrine means that there runs through human nature not only the urge to live but also the will to live, not only the will to live but also the will to perfect our being in every sphere of life. There is a Live Force which is working in the universe and it will not rest till it has fashioned all things fair. To put it in the words of Shelley, of whom Shaw was an ardent admirer:

"The one Spirit's plastic stress
Sweeps through the dull dense world, compelling there
All new successions to the forms they wear;
Torturing the unwilling dross that checks its flight
To its own likeness, as each mass may bear;
And bursting in its beauty and its might
From trees and beasts and men into the Heaven's light."

Shaw's ideas on the problem of style are rather meagre, though emphatic. To begin with, a writer must have something to say. He who has nothing to say can have no style whatever. Secondly, what he wishes to say must be 'momentous' in character. Thirdly, he must be convinced of the truth of what he has to say. And then he must assert it with the utmost effectiveness, taking care to see that he makes his assertion as irritating and indigestible as he possibly can; for, as Shaw remarks, 'if you do not say a thing in an irritating way, you may as well not say it at all, since nobody will trouble themselves about anything that does not trouble them. The attention given to a criticism is in direct proportion to its indigestibility'. Elsewhere Shaw observes that "Effectiveness of assertion is the Alpha and Omega of style". Style is thus, in his opinion, the inevitable outcome

of the momentousness of a writer's theme, his conviction of its truth, and his power of effective assertion. When, however, style has once been achieved as a result of these factors, it assumes an independence of its own and lives in its own right even after the writer's assertion has been proved to be false. As Shaw puts it, "Disprove his assertion after it is made, yet his style remains".

Shaw is one of the greatest masters of English prose and his style will remain even after his assertions have been disproved by the intellectual Quixotes of some distant age. It works on the mind, as Prof. Joad has aptly said, like "a draught of intellectual champagne" and produces a "curious effect of heady exhilaration". It is remarkable for its effectiveness of assertion, its provocative edge, its epigrammatic point, its pellucid clarity, its biting directness, its forensic brilliance, and its impressive spontaneity. It is a perfect blend of the spoken and of the written idiom alike. It is a consummate instrument for purposes of description, narration, and exposition, for the marshalling of facts, for the conduct of elaborate argument, and for the cut and thrust of spirited, vigorous controversy. It is rich in simile, metaphor, and illustration, though it avoids, as a rule, ornate epithets and uses flat, colourless abstractions. But it is never dull. It seeks to convince, not to persuade. It is perhaps the most aggressive style in the whole range of English prose. By its unusual speed, its drive, its imperturbability it reminds us of 'those strong Feet' of the Hound of Heaven which beat

> "Still with unhurrying chase,
> And unperturbed pace,
> Deliberate speed, majestic instancy"

and overtake at last the most recalcitrant spirits.

MAQAMAT (STAGES)

RASIH GÜVEN

It is stated that the mystic or Sufi in order to attain the state of Oneness with God has to pass through seven stages (Maqamat). These are :

1. Tawbat (Repentance-Penitance)

Tawbat is the first and foremost maqam of the journey of the seeker. It is a kind of revolution in the mental state of the Talib or disciple and it signifies a fresh and new life in him. We have seen in the lives of the great Sufis that they often see something in the world of dreams or in wakefulness which brings about a great change in them and makes them depart from the line of ordinary life and begin to tread the path of mysticism. The story of the conversion of the Ibrahim b. Adam has been narrated in the Mesnevi as follows :—

> "Ibrahim b. Adam heard a noise on the roof while he was sleeping in bed at night. It was the noise of brisk foot steps. He said to himself "who can tread like this on the roof ?" From the window of the palace he shouted, "This is not man, it must be some Peri (fairy)". He heard some people saying that they were searching for camels on the roof. Adam said "How it is possible to search for camels on the roof ? They said to him "How is it that you want union with God while seating on the throne in splendour ?"

With reference to the conversion of Mawlānā Jalālu'ddin, as we have already mentioned, in the previous chapter, it has been narrated by Ahmad Aflāki[1] that one day Mawlānā Jalālu'ddin was coming out of the Madrasa in Konia, when he came across

[1] Ahmad Aflāki, Manakib-al-Arifin, pp. 91-92, Turkish Translation of Dr. Tahsin Yazia.

Shams-i-Tabrizi who asked him who was greater, Bayazid-i-Bistami and Mohammad bin Abdullah (Prophet). Mawlānā Jalālu'ddin said "Mohammad is the last of the prophets how can he be compared with Bayazid". Shams-i-Tabrizi said, "The prophet says : (We did not know God as we should have known Him—Ma arafnaka Haqa Marifateqa", on the contrary Bayazid-i-Bistami said : "How great is my glory—Sudhani Ma Azamu Shani". Hearin this Mawlānā Jalālu'ddin left his scholastic studies and began to tread the path of Inner Knowledge. Dawlatshah in his Tazkirat-ul-Awliyā says that Shams-i-Tabrīzī asked Mawlānā Jalālu'ddin what was the aim of attaining knowledge ? Mawlānā said "Knowing the rules of Shariat (Divine Law)". Shams-i-Tabrizi said that these were all words. The Ilm (Knowledge) is that which takes us the Malum (the object of Knowledge) and he recited the following verse of Sanai :

> "The Knowledge which does not take thee
> away from thyself ignorance is a hundred
> times better than that knowledge".

This brought about the transformation of Mawlānā Jalālu'ddin so that he left the scholastic discussions peculiar to Madrasa and began to seek inner knowledge.

Mawlānā Jalālu'ddin describes the repentance or penitence in the following manner :

> "From the quarter of the West a door of repentance is open to mankind till the Resurrection.
> Till the sun lifts up its head (rises) from the West, that door is open : do not avert thy face from it.
> By the mercy (of God) Paradise hath eight doors : one of those eight is the door of repentance, O son.
> All the others are sometimes open, sometimes shut ; and never is the door of repentance but open.
> Come, seize the opportunity : the door is open : carry thy beggage thither at once in despite of the envious (Devil)".[1]

[1] Mesnevi, Volume IV, Verses 2504-2508 (R. A. Nicholson's translation).

After doing penitence a man should choose some guide or Murshid-Guru as we have already said. He is called by different names, Pir, Wali, Shaykh, Qutub and Dalil-i-Raḥ. He is the man who has sufficient experience and who has himself attained God.

2. Wara-Abātinence

This is the second stage of the Ahl-i-Tariqat. Bashr Hafi has said that Wara consists of being free from doubts and self-examination at every moment.[1] Shahl bin Abdullah Tustari says "the faith of the man does not attain perfection unless he acts with Wara and Wara cannot be without Ihklas (sincerity of purpose, purity of motive) and Ihklas means abstaining from everything other than God".

Sultan Walad, son of Mawlānā Jalālu'ddin quotes his father's saying "When I (Mawlānā) was five years of age my Nafs (bower Soul-Animal soul) was dead. During my youth and maturity I underwent the ascetic austerities with complete seriousness and for whole nights I prayed and I was going beyond the limit in observing ascetism".[2]

3. Zuhd-Renunciation

Wara-Abstinence leads to Zuhd. Junay Bagdadi defines Zuhd-Renunciation as follows: the hands being clear of worldly property and heart being free from greed. "The fatalistic spirit which brooded darkly over the childhood of Islam" says R. A. Nicholson, "caused renunciation to become the watchword of early Moslem ascetism. At first, renunciation was understood almost exclusively in a material sense. To have as few worldly good as possible seemed the surest means of gaining salvation".[3]

[1] Fariduddin Aṭṭar, Tazkirat-ul-Awliya, Vol. I, page 112.

[2] A. Aflāki, Manakib-al-Arifin, p. 135 (Turkish Translation of Dr. Tahsin Yazia.

[3] R. A. Nicholson; The Mystics of Islam, p. 36.

Mawlānā Jalālu'ddin expressed his views as thus:

"For the sake of your death-day be dead (to self), now, so that you may be (united) with everlasting Love, O fellow-servant.

Through the curtain of the struggle (against self) renunciation sees the face lika a pomegranate-flower and the two tresses of the Desired One".[1]

"Show fortitude in (enduring) self-mortification and affliction; continually behold everlasting life in dying to self".[2]

4. Faqr-Poverty

The Zahid is one who not only abstains from illegal pleasures as every good Muslim does but also avoids legal pleasures. One who follows the Faqr not only keeps himself away from material possessions but from every desire which may cut him away from God. Jāmi says, as quoted by R. A. Nicholson, "Faqirs renounce all worldly things for the sake of pleasing God. They are urged to this sacrifice by one of three motives: *(a)* Hope of an easy reckoning on the Day of judgment, or fear of being punished; *(b)* Desire of Paradise; *(c)* Longing for spiritual peace and inward composure".[3]

Mawlānā Jalālu'ddin illustrates poverty thus:

"Since the broken (contrite) one will be saved, be thou broken (contrite). Safetly lies in poverty: enter into poverty".[4]

"The affair of (spiritual) poverty is beyond thy apprehension: do not look on poverty with contempt.

Because dervishes are beyond property and wealth: they possess an abundant portion from the Almighty".[5]

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[1] Mesnevi, Vol. III, Verses 3760-3761 (R. A. Nicholson's Translation).

[2] Ibid, Volume V, Verse 2040.

[3] R. A. Nicholson, The Mystics of Islam, p. 38.

[4] Mesnevi, Volume IV, Verse 2151.

[5] Ibid, Volume I, Verses 2352-2353.

"Is (the saying) 'poverty is my pride' vain and false? No ; 'tis thousands of hidden glories and disdains".[1]

"God forbid' I desire nothing from created begins : through contentment there is a (whole) world within my heart".[2]

"Have patience with poverty and abandon this disgust, because in poverty there is the light of the Lord of glory".[3]

"The provision of leaflessness (spiritual poverty) is the sign of being agnostic ; the yellowness of gold is the (cause of the) money-changers ruddiness of face (cheerful countenance)".[4]

"Power is not suitable to every one: weakness is the best stock in trade for the devout.

For this reason poverty is everlasting glory, since the hand that cannot reach (to objects of desire) is left with fear of God (and nothing else).

Riches and the rich spurned (by God) because acts of self-denial are relinquished by power.

Weakness and poverty are security for a man against the tribulation of the covetous and anxious (fleshly) soul".[5]

"How should a Sufi be grieved on account of poverty? The very essence of poverty becomes his nurse and his food,

Happy is the Sufi whose daily bread is reduced : his bead becomes a pearl, and he becomes the Sea".[6]

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[1] Ibid, Verse 2351.

[2] Ibid, Verse 2362.

[3] Ibid, Verse 2374.

[4] Ibid, Volume IV, Verse 2055.

[5] Ibid, Volume III, Verses 3280-3283.

[6] Ibid, Volume IV, Verses 1856, 1860.

5. Sabr-Patience or Fortitute

Faqr needs Sabr-Patience. If the Salik has no patience and forbearance in Faqr he would not attain anything. Sabr-Patience is required at every stage of Suluk. One cannot attain success at any stage without it. This is why the Sufis regard Sabr as half of "Iman" even whole of "Iman". Mawlānā Jalā-lu'ddin's opinion is as follows:

"As to ask (him the reason). Nay, hush! I will be patient, in order that by patience I may gain my object.

He showed patience and was in a quandary for sometime, (till at last) it (the secret) was disclosed, for patience is the key to joy (relief).

Again he said to himself, "Patience is better: Patience is the quickest guide to the object of one's quest.

He (God) hath joined Sabr (patience) with haqq (the real and permanent): O reader, recite attentively the end of (the Sura) Wal-asr (Sura c111, 3).

"God created hundreds of thousands of elixirs, (but) man hath not seen an elixir like patience".[1]

"Since He is the Dispenser of portions, complaint is (an act of) infidelity. Patience is needful: patience is the key to the gift (bounteous reward).

All except God are enemies: He (alone) is the Friend: how is it good (seemly) to complain of a friend to an enemy?"[2]

"If you are wholly perplexed and in straits, have patience: Patience is the key to joy".[3]

"Draw happily this caravan (onward) to the pilgrimage, O Commander[4] of Patience is the key to joy".[5]

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[1] Ibid, Volume III, Verses 1840-41, 1846, 1853-54.

[2] Ibid, Volume V, Verses 2358-59.

[3] Ibid, Volume I, Verse 2908.

[4] Husāmu'ddin Chalabi.

[5] Mesnevi, Volume IV, Verse 14.

"And smilingly and cheerfully bear the burden of distress, because patience is the key to relief from pain.

When you put up with the vileness of these vile folk you will attain unto the light of the (prophetic) sunnas (ways and practices).

For the Prophets have often suffered affliction from the vile: often have they writhed in anguish on account of such snakes.

Since in eternity it was the will and decree of God, the Forgiver, to reveal and manifest Himself,

(This involves contrariety, for) nothing can be shown without a contrary; and there was no contrary to that incomparable king".[1]

6. Tawakkul-Trust in God.

Tawakkul belongs to the third stage (martabai Dubb) of the Tawhid (Union). In the fourth stage (martabai Dubb-a-Dubb) there is nothing left of the Arif (Gnostic) that he may require Tawakkul.

Tawakkul has three degrees:

(i) The first is that Mutawakkil (one who practices the Tawakkul) surrenders himself and has full faith in God.

(ii) The second stage of Tawakkul is that Mutawakkil feels as dependent upon God as a child does with regard to his mother.

Tawakkul in the first stage is conscious, but unconscious and automatic in the second stage.

(iii) The third stage of Tawakkul is the highest and consists of Mutawakkil's being as powerless and submissive before God as a dead body in the hands of the Ghassal (one who bathes a dead body).

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[1] Ibid, Volume VI, Verses 2148-52.

Bayazid-i-Bistami says Tawakkul means confining life to the living of one day and keeping the mind clear of the worry of to-morrow. It is only by controlling oneself that one can have Tawakkul in the true sense of the word. This is why we see the mystics asking us to be careful of our Nafs (Self).

Mawlānā Jalālu'ddin says:

> "Hark, put trust in God, do not let thy feet and hands tremble (with fear): thy daily bread is more in love with thee than thou (with it)".[1]

7. Riza-Satisfaction

This is the highest maqam for the Salik. That is the highest stage of moral training and self improvement. When the Salik begins to regard God as the origin of all Good and believes that he alone has the power to fulfil human needs and that one should not be afraid or hope from any one other than God. He will have Tawakkul and Tawakkul is bound to lead him to Riza-Satisfaction. Riza is the fruit of the perfect Love of God. It means that the man has full faith in the will of God and the fact that no wrong can ever come to him from God. He should feel that there is no error in the divine scheme of things. Every man is getting his due and one should not be jealous of what the other man is getting. Whatever is happining is good and one should remain satisfied with it, so that God may be pleased. The perfect Sufi does not open his lips for cursing even if he meets with enmity or calamity. In this view even to ask for a change in the conditions of life is to ask God to change his commands and this is against Riza. The Mutawakkil and Razi (believing in Riza)—Sufi does not pay attention to either the past or the future; he is busy with the present.

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1. Volume V, Verse 2851.

व्यक्तित्व विकास

पद्मा अग्रवाल

अखिल भारतीय दर्शन परिषद् ने मनोविज्ञान विभाग का अध्यक्ष बनाकर मुझे गौरवान्वित किया है, मैं इसके लिये आभारी हूं। यह मेरी विशेषता के कारण नहीं, आपकी कृपा और स्नेह है। मनोविज्ञान विभाग का उद्घाटन करते समय पृष्टभूमि में अनेक भाव-विचार रहते, दो बातें मुख्यतः आपके सम्मुख रखना चाहती हूं—एक तो यह कि मनोविज्ञान का दर्शन से अनन्य सम्बन्ध है और विचार करने पर दार्शनिक तथ्यों और मान्यताओं का कलात्मक और वैज्ञानिक निरूपण-विवरण हमें बीसवीं शताब्दी के मनोविज्ञान की कुछ धाराओं में स्पष्ट मिलता है; और दूसरी यह कि कुछ विशिष्ट प्रतिक्रियायें जो पहेली मात्र थीं उनका सूक्ष्म और मान्य विश्लेषण-विवरण मनोविज्ञान में मिलता है।

जब मैं मनोविज्ञान के सम्पर्क में आई तभी से कौतूहल और जिज्ञासा जागृत हुई जो वस्तुतः मानव व्यवहार, व्यक्तित्व, स्वभाव, प्रवृत्ति, अभिरुचि और विभिन्न प्रेरणाओं से अवगत होने की गहरी लगन थी। वही कौतूहल अब भी बना है, बहुत सी समस्याओं का निराकरण और समाधान नहीं हो सका है। विषय के सैद्धान्तिक और व्यवहारिक पहलू का ज्ञान परिचय मात्र है। आवरण तो हटाना ही है; इसके रहने से सत्य की वास्तविक झाँकी नहीं मिल सकती। हमें तो व्यक्तित्व की झांकी चाहिये—प्रकृत रूप में हो चाहे परिमार्जित रूप में। सभी रूप में होने पर ही प्रतिक्रियाओं की समीक्षा सही-सही सम्भव है। प्रकृति की तरह मानव स्वभाव भी बहुरंगी है। इसमें भी विभिन्न प्रकार के पौधे और पुष्प हैं। जो भी प्रतिक्रियायें मानव करता है उसकी पृष्टभूमि में अधिकतर गूढ़ इतिहास रहता है और उस इतिहास के सिंहावलोकन के लिये चिंतक का तटस्थ रहना, सूक्ष्म और पैनी दृष्टि, और सरल सौहार्द भाव आवश्यक है। तभी मानव प्रकृति का पारखी होना सम्भव है। अनुभूति को समृद्ध करने के लिये व्यक्तियों के सम्पर्क में आना, उनके साथ भावों और विचारों का आदान-प्रदान करना, उनमें रमना और अपने को भूलना आवश्यक है। वस्तुस्थिति से मुठभेड़ होने पर ही व्यक्ति विशिष्ट प्रकार की प्रतिक्रियायें करता है और उसका सच्चा स्वरूप प्रकाश में आता है। ग्रन्थों में भी हमें विभिन्न वर्ग के व्यक्तियों का चित्रण मिलता है। ये यथार्थ और सजीव हैं। इसी से तो ग्रन्थों के अध्ययन में व्यक्ति आनन्द विभोर हो उठता है और अच्छा है कि इनसे हम सम्पर्क बढ़ाकर अपना ज्ञान परिपक्व करें। साहित्य और कला का जीवन से सम्पर्क है और इनसे हमें पर्याप्त मनोवैज्ञानिक तथ्य निरीक्षण और प्रयोग के लिय मिल सकता है। वैज्ञानिक अन्वेषण मे तथ्य सम्बन्धी और विधि सम्बन्धी समस्यायें उठती हैं। तथ्य वास्तविक है, इसकी खोज वैज्ञानिक विधि के आधार पर की जाती है।

मनोविज्ञान अध्ययन का प्राचीन विषय है। भारतीय और ग्रीक दर्शन में भी मनोवैज्ञानिक तथ्य मिलते है। मानव सम्बन्धी क्रिया-व्यापार में आदिम काल से चिन्तकों की रुचि रही है। उन्नीसवीं शताब्दी में प्रयोगिक मनोविज्ञान की नींव पड़ने पर वैज्ञानिक विधि के

अन्वेषण से मनोविज्ञान की सत्ता अलग स्थापित हुई और यह रासायनिक, भौतिक इत्यादि की तरह एक विज्ञान माना जाने लगा। इस प्रकार मनोविज्ञान प्राचीन है और अर्वाचीन भी। भेद इतना ही है कि प्राचीन काल में इसकी आस्था दर्शन के अन्तर्गत थी और वर्तमान में विज्ञान के साथ है। प्रयोग और निरीक्षण की वैज्ञानिक विधियों के आधार पर इसमें तथ्यों की स्थापना होती है और समस्याओं का समाधान किया जाता है। विज्ञान का दर्शन और धर्म से विरोध है। दर्शन और धर्म के तथ्य वैज्ञानिक दृष्टि से प्रमाणित नहीं किये जा सकते। मनोविज्ञान ही ज्ञान का ऐसा क्षेत्र है जिसमें दार्शनिक तथ्यों का भी वैज्ञानिक आधार पर विश्लेषण मिलता है। वस्तुतः मनोविज्ञान और दर्शन में अनन्य सम्बन्ध है। दर्शन का मूल तथ्य जीवन से सम्बन्ध रखता है—सत्य को आभास से पृथक करके मानव का आध्यात्मिक विकास करता है और इसमें मनोविज्ञान का बहुत बड़ा योग है। मानसिक परिवर्तन अथवा 'साइकिक ट्रान्सफार-मेशन' होने पर आध्यात्मिक चेतना सम्भव हो जाती है। जब व्यक्ति अपने व्यवहार का स्वयं सूक्ष्म विवेचन-विश्लेषण कर ज्ञान प्राप्त कर लेता है, जीवन रहस्यमय नहीं रह जाता। इसमें लय आ जाती है और समायोजन स्थापित हो जाता है।

दर्शन की समस्याओं का समाधान करने का प्रयास डा० सी० जी० युंग जो विश्लेषणात्मक मनोविज्ञान के प्रवर्तक हैं, उन्होंने मनोवैज्ञानिक ढंग से किया है। दर्शन का आदर्श मुक्ति अथवा 'सालवेशन' है। भारतीय दर्शन का तो यह प्राण है। मुक्ति के साधन भारतीय दर्शन में भले ही विभिन्न हों, लक्ष्य एक ही है। सांख्य में मुक्ति पुरुष का प्रकृति से पृथकीकरण है; वेदान्त में यह अपने में सत्‌चित्‌-आनन्द की अनुभूति करने की अवस्था है; योग में यम, नियम, आसन, प्राणायाम इत्यादि के करने से यह प्राप्त होता है; और बौद्ध दर्शन में यह दुखों से निवृत्ति की अवस्था है। दार्शनिकों की मुक्ति अथवा आत्मदर्शन की समस्या विश्लेषणात्मक मनोविज्ञान की व्यक्तित्व विकास 'इन्डीविजुयेशन' की धारणा से स्पष्ट हो जाती है। आत्मा की अनश्वरता का विचार सामूहिक अज्ञातमन 'कलेक्टिव अनकान्शस' की धारण में निहित जान पड़ता है। जीवन के सम्बन्ध में सूक्ष्म व्याख्या दर्शन और मनोविज्ञान दोनों में ही मिलती है। दर्शन के समस्याओं का समाधान मनोविज्ञान में भी किया गया है। मनोवैज्ञानिकों ने दार्शनिकों की समस्याओं का उपहास नहीं किया है बल्कि उनका यहां नूतन रूप से समाधान होता है। युंग के ग्रन्थ मनोवैज्ञानिक और दार्शनिक दोनों ही दृष्टि से अमूल्य हैं। कभी तो यह निश्चय करना कठिन हो जाता है कि वह दार्शनिक है अथवा मनोवैज्ञानिक। दार्शनिक और मनोवैज्ञानिक दोनों ही दृष्टि से व्यक्तित्व के विकास का अर्थ विभिन्न तथ्यों का समुच्चय मात्र ही नहीं बल्कि अपना निराले ढंग का संघटन है—यह संघटन एक अवयवी (औरगेनिज्म) की तरह है जिसमें सब अवयवों का पारस्परिक सम्बन्ध ऐसा रहता है कि एक अवयव की क्रिया बिना दूसरे के किसी प्रकार सम्भव ही नहीं। अवयवी का सुचारु रूप से संचालन समष्टयात्मक क्रिया है, व्यष्टयात्मक नहीं। संघटन के अपने नियम हैं। जेस्टाल्तवादियों का अन्वेषण इस दिशा में प्रशंसात्मक है। इन नियमों से परिचित होने पर संघटन क्योंकर किसी एक दिशा में विशेष रूप से हुआ है, इसका अर्थ स्पष्ट हो जाता है। व्यक्तित्व का संघटन रूप में विकास करना वस्तुतः मानव की ही निधि है। अन्य जीवों के लिये जो विकास की दृष्टि से अभिन्न (अनडिफरेनशियेटेड) हैं, विशेषीकरण (स्पेशिफिकेशन) नहीं हुआ है, जिनकी भाव और प्रकृति प्रकृत स्तर पर है—संशोधित-पारिमार्जित नहीं हुई ह—उनके लिये यह संभव नहीं है। यह तो मानव की विशेषता

है कि वह ईश्वर की प्राप्ति इह लोक में ही ग्रहण कर सकता है और मनोविज्ञान इस विचार को पुष्ट करता है।

युंग ने व्यक्तित्व विकास (इन्डीविजुयेशन) की चार अवस्थायें बतलायी हैं। पहली अवस्था वृत्ति भाव और इच्छा के साथ समझौता-संधि की है। युंग के शब्दों में "शैडो इज दी नर्सरी पार्ट आफ परसोनालिटी'। फ्रायड का कथन है कि प्रकृत इच्छा···भाव की स्वीकृति से ही मानव सब प्रकार के मानसिक रोग और असमायोजन से मुक्त होता है। ईसाई धर्म में स्वीकृति मुक्ति का प्रमुख द्वार माना गया है। 'कनफेंस दाइ सिन, द गेट ऑफ हेवन इज ओपेन फॉर दी'। यह विकास की पहली सीढ़ी है—प्रकृत और शाश्वत से संधि और समझौता है। जिनके मन में प्रकृत इच्छा-भाव के प्रति अवहेलना का भाव है, उनका मनोविच्छेद अवश्यंभावी है। प्रकृत भाव-इच्छा के विस्फोटन का सदैव भय रहता है। वह व्यक्ति मानवी स्वभाव का पारखी कभी नहीं बन सकता, उसका सामान्यीकरण (जेनरेलीजेशन) अर्थशन्य प्रमाणरहित होता है। प्रकाश की आस्था-मूल्य अंधेरे में है, सुख की दुख में है। व्यक्तित्व की पूर्णता की अनुभूति बिना इस पक्ष (डार्क ब्रदर) के नहीं की जा सकती। वस्तुतः आध्यात्मिक विकास उसी का हुआ है जिसने जीवन में शैडो का महत्व समझा है। इसे अंगीकार कर जीवन की धारा निर्धारित की है; इसका दमन अथवा निष्कासन नहीं किया है। शैडो द्वारा जीवन के प्रकृत वर्जित, दमित, निष्काषित तथ्यों का प्रतिनिधित्व होता है। शैडो सबमें रहती है—चाहे वह व्यक्ति साधु प्रकृति का हो, अथवा भोग विलास में लिप्त। ज्ञान मन में निर्जीव रहने पर, अज्ञात मन में अधिक सजग (डेन्सर) रूप में विद्यमान रहती है। युंग के अनुसार 'शैडो' आसुरी प्रकृति का नहीं रहता, प्रकृति में प्रकृत, निम्न (इनफीरिअर) और वीभत्स-विकृत (आकवर्ड) रहता है। व्यक्तित्व विकास के लिये ज्ञात मन में इसकी अनुभूति आवश्यक है। प्रारम्भ में इसका आवरण हल्का रहता है जिसमें छिद्र करना आसान है। आगे चलकर ज्ञात और अज्ञात के बीच का परदा लोहे की चादर की तरह हो जाता है जो अभेद है और जिसमें आदान-प्रदान संभव नहीं रहता। ऐसी परिस्थिति में एक व्यक्तित्व के स्थान पर बहु व्यक्तित्व का विकास होता है : एक कर्मठ, चैतन्य और दूसरा प्रकृत सजीव भाव-इच्छा का दास। वस्तुतः इस कृत्रिम आवरण-दीवार को हमें हटाना है और ज्ञात अज्ञात में विषय-वस्तु-तथ्य का स्वतंत्र आदान-प्रदान लेन-देन होने देना है। युंग ने अपने ग्रंथ 'साइकॉलजी ऐण्ड रेलीजन' में इस संबंध में व्याख्या की है। जो व्यक्ति अपने स्वभाव तथा भाव-प्रकृति, आवश्यकता-सीमा के बारे में सचेत रहता है, उसपर चिंतन और अलोचन करता है, उन्हें अंगीकार कर परिमार्जित और परिशोधित करने में सफल होता है, उसी का व्यक्तित्व विकसित कहा जा सकता है। यह कार्य आसान नहीं। यह मनोवैज्ञानिक सत्य है। प्रारंभ में 'अवरोध' अवश्यम्भावी है। यक्ताभ्यास की कला में प्रवीण व्यक्ति के लिये अपनी कमजोरी स्वीकार करना आसान कार्य नहीं है, अन्य की तो दूर है, वह अपने में ही अपनी कमजोरी मानने को तैयार नहीं होता। एक प्रकार से अपने को धोका देता है। इस मनोवैज्ञानिक तथ्य का पुष्टीकरण मानसिक रोगियों का विश्लेषण करने से पूर्णतः हो जाता है। यही तो मानसिक रोग और अस्वस्थता का मूल कारण है और इस मूल तथ्य के निराकरण के लिये प्रकार-प्रकार की मानसिक उपचार की युक्तियां निकाली गई हैं। अबाध मनः आयोजन, निर्देशन, पुनः शिक्षण, सम्मोहन, इत्यादि विशेष महत्व की हैं। स्वप्न-विश्लेषण से भी इसकी पुष्टि होती है। अवरोध होने से स्वप्न का वास्तविक तथ्य (लेटेन्ट कन्टेंट)

छुपा रह जाता है। व्यक्तित्व के आदर्श विकास के लिये 'शैडो' के साथ समझौता आवश्यक है। समझौता-संधि का अर्थ अपनी सत्ता नहीं मेटना है, उसमें रमना और भूलना नहीं है—व्यक्ति अपने को मिटाकर, रमकर भूलकर आदर्शों का समर्पण करके समझौता नहीं करता। वस्तुतः वह अपने प्रकृत व्यक्तित्व के अविच्छिन्न भाग के प्रकृति-स्वभाव को समझने का प्रयास मात्र करता है। इस जागृति से उसके शरीर और मन के रग-रग में एक नयी स्फूर्ति मिलती है, नसों में विद्युत दौड़ती है, मांसपेशियां क्रियमाण हो जाती हैं और उसकी चेतना में सजीवता और गंभीरता (डीपनिंग)। वस्तुतः यह दैहिकमानसिक अवस्था अथवा संवेगात्मक प्रौढ़ता (इमोशनल मैचुएरटी) का लक्षण है। तब उसे अपना और अन्य व्यक्तियों का व्यवहार पहले नहीं लगता। वह दूर-दर्शी बनता है, उसमें दृढ़ता आती है और एक सच्चे वैज्ञानिक की आत्मा जिससे उसका दृष्टिकोण व्यक्तिगत (सबजेक्टिव) न रहकर अव्यक्तिगत (औबजेक्टिव) बन जाता है। उपयुक्त वातावरण रहने पर संधि आपो-आप हो जाती है। उसे गिरकर और फिर उठने की आवश्यकता नहीं पड़ती, अपने स्थान पर बैठा तटस्थ सब देखता है, सुनता है, अनुभूति करता है और समायोजन स्थापित कर लेता है। युंग के अन्वेषण में यह मनोवैज्ञानिक तथ्य सन्निहित है, यद्यपि यह अस्पष्ट है और जिस रूप में यहां स्पष्टीकरण हुआ है उन्होंने स्पष्टीकरण नहीं किया है। इस प्रसंग में फ्रायड की परिमार्जन की कार्य-पद्धति की ओर भी ध्यान जाता है। फ्रायड के अनुसार परिमार्जन एक अव्यक्त कार्य-पद्धति है जिसपर मूलतः समस्त धर्म कला संबंधी प्रतिक्रियाओं की व्याख्या निर्भर करती है। अच्छा होता यदि फ्रायड ने परिमार्जन को अज्ञात मन के विषय-वस्तु-तथ्य का ज्ञात मन से अव्यक्त एकीकरण (इम्परसेप्टिबुल एसीमीलेशन) मान लिया होता। यदि यह तथ्य (इम्प्लीकेशन) फ्रायड की परिमार्जन की धारणा में निहित है तो मानव के क्रिया-व्यापार तथा प्रतिक्रिया के प्रसंग में इस धारणा का विशेष मूल्य है। इससे मनोविज्ञान के मूल तथ्यों का दर्शन और धर्म से विरोध भी न रह जाता।

व्यक्तित्व विकास का दूसरा आवश्यक अंग आत्म-प्रतिमा (सोल इमेज) अथवा स्त्री भाव-प्रतिमा (एनिमा) और पुरुष भाव-प्रतिमा (एनिमस) का साक्षात् करना है। पुरुष में यह ज्ञान कि उसमें स्त्रीत्व गुण-प्रकृति है नहीं रहता; स्त्री में पुरुष गुण-प्रकृति का ज्ञान नहीं रहता। वस्तुतः पुरुष में स्त्रीत्व गुण और स्त्री में पुरुषत्व गुण की विशेष गरिमा-महिमा रहती है। इस तथ्य की पुष्टि कायिक (बाइऑलजिकल) धार्मिक और मनोवैज्ञानिक सभी दृष्टि से की गई है। पुरुष में फीमेल सेक्स हारमोन्स होते हैं; स्त्री में मेल सेक्स हारमोन्स। शैव सिद्धान्त में अर्द्धनारीश्वर की प्रतिमा इसका उदाहरण है। युंग की 'एनिमा' और 'एनिमस' की भाव प्रतिमाएँ (आरचेटाइप्स) कायिक और धार्मिक सत्य की ओर इंगित करती हैं; ये उसकी कल्पनाएँ मात्र नहीं हैं। प्रायः पुरुष स्त्री भाव-प्रतिमा (एनिमा) से परिपीड़ित (ऐनिमा औबसेस्ड) रहता है और स्त्री पुरुष भाव-प्रतिमा (ऐनिमस औबसेस्ड) से। अज्ञात मन में जब ये भाव प्रतिमाएँ अभिन्न रूप से पड़ी रहती हैं, अत्यधिक दमित निष्कासित अवस्था में रहती हैं और इनका प्रवेश चेतना में नहीं हो पाता, तब पुरुष में स्त्रीत्व स्वभाव मिलता है और स्त्री में पुरुषत्व का दिग्दर्शन होता है। पुरुष में स्त्रीत्व पक्ष अभिन्न रहने पर उसका बौद्धिक विकास भले ही हुआ हो, वह भाव प्राधान्य रहता है और प्रयास करने पर भी अपने को इस सम्मोहन से मुक्त नहीं कर पाता, वस्तुस्थिति अनुकूल

होते ही इसमें उलझ जाता है; स्त्रियों में पुरुष पक्ष अभिन्न रहने पर प्रौढ़ होने पर भावुक बनी रहती हैं और इसमें डूबा उतराया करती हैं। जिस व्यक्ति ने अपने प्रतिमाओं का प्रक्षेपण बाह्य वस्तु पर कर लिया है और इस प्रकार अपने व्यक्तित्व के इस आवश्यक आंतरिक मांग के बारे में जागृति प्राप्त कर ली है, उसके व्यक्तित्व में व्यतिरेक असमायोजन नहीं रहता। आत्म-प्रतिमा का प्रक्षेपण अनेक रूप में हो सकता है। आराधक देवी का पूजक होता है, कलाकार अपनी चित्रित प्रेयसी का। प्रारंभ में स्त्री-प्रतिमा (ऐनिमा) का प्रक्षेपण माँ में होता है; इसी से तो लड़कों में रूप लावण्य गुण में माँ सी पत्नी पाने जैसी आकांक्षा होती है। इस अवस्था से मुक्त होना पुरुष के लिए आवश्यक है। किशोरावस्था आने पर इस भाव-प्रतिमा का प्रक्षेपण परवर्गी में होता है जिसकी ओर उसका आकर्षण होना है; यह आकर्षण अंतर का बाह्यीकरण मात्र है। कभी अपनी भाव-प्रतिमा से मिलता-जुलता साथी वाह्य जगत् में नहीं मिलता। ऐसी परिस्थिति में भी व्यक्तित्व में विच्छेद नहीं हो पाता। इस भाव-प्रतिमा की अनुभूति स्पष्ट रूप से चेतना में होती है—अज्ञात मन की भाव-प्रतिमा अपने वास्तविक रूप में प्रवेश कर चुकी रहती है और वह चैतन्य हो उसमें रमा हुआ रहस्यवादियों की तरह आह्लाद का अनुभव करता है। यह अपने ही दूसरे भाग से विचित्र प्रकार का समझौता है। इस चेतना से व्यक्ति की सम्पूर्ण भाव-वेदना अनुशासित हो जाती है—वह भाव रहित नहीं बनता, बल्कि अधिक सजग हो जाता है और उसमें अनिर्वचनीय संतोषण पाता है, तनाव नहीं रह जाता। आत्म-प्रतिमा का चेतना में प्रवेश होना विरोधी काम तथ्य (कान्ट्रासेक्सुयल कमपोनेंट) से संतुलन स्थापित करना है। इसका ज्ञात में प्रवेश होना और सजीव होना विशेष महत्व का है। आत्म-प्रतिमा से साक्षात् बचपन या किशोरावस्था में नहीं होता, यह प्रौढ़ होने पर होता है।

आत्म-प्रतिमा का चेतना में प्रवेश होने पर सामूहिक अज्ञात मन की अन्य भाव-प्रतिमाओं में भी जीवन आ जाता है और सबल-सजग हो जाने से चेतना में प्रवेश करने का मार्ग ढूंढ़ने लगती है। युंग के अनुसार पुरुष में ओल्ड वाइज़ मैन की भाव-प्रतिमा होती है जिससे आध्यात्मिक सिद्धांत का प्रतिनिधित्व होता है तथा स्त्री में 'मैगना मैटर' (ग्रेट मदर अर्थ) जिससे भौतिक सिद्धांत (मैटिरियल प्रिन्सपल) का प्रतिनिधित्व होता है और यह सार्वभौम अव्यक्तिगत प्रवृत्ति का अभिव्यक्तिकरण है। इनका चेतन में प्रवेश आंतरिक विकास का तीसरा आवश्यक अंग है। पौराणिक कथाओं में ओल्ड वाइज मैन और 'मैगना मेटर' का असंख्य रूप मिलता है। चेतना में उनका प्रवेश हो जाने पर व्यक्ति में सम्मोहित करने का गुण आ जाता है। 'मना' का अर्थ है अन्य व्यक्तियों को सम्मोहित करने का गुण प्राप्त होना। यह गुण प्राप्त हो जाने पर सामान्यतः अहंकार की उद्भूति होती है, किन्तु इस अवस्था में पहुँचने पर चेतना के गहरी (डीपेन) हो जाने से आध्यात्मिक विजय पाने पर भी व्यक्ति में अहंकार भाव नहीं होता, आवरण (परसोना) का निवारण हो जाने पर मानसिक क्षेत्र में एक एक नए प्रकार की व्यवस्था बन जाती है और इसमें चेतना के विशालकाय बन जाने से अज्ञात मन का सम्पूर्ण तथ्य तिरोहित हो जाता है।

आंतरिक विकास की चौथी और आखिरी अवस्था 'इमरजेन्स आफ सेल्फ है'। इसमें अज्ञात का ज्ञात में स्थानान्तरण मात्र नहीं होता बल्कि व्यक्ति का पूर्णतः मानसिक रुख ही

परिवर्तित हो जाता है, विशिष्ट व्यक्तित्व निखर जाता है। यह परिवर्तन बिना मनोवैज्ञानिक युक्ति के संभव नहीं। हमें विभिन्न व्यक्तियों के व्यवहार का निरीक्षण करना होगा और उनसे भावात्मक संबंध स्थापित कर साक्षात् करना होगा। तभी तो व्यक्तित्व का परिवर्तन-परिवर्धन संभव है। अज्ञात मन के तथ्यों का अन्वेषण सफलता का मूल केन्द्र है। तब जीवन में डिस्ओरियेनटेशन नहीं रह जाता और विभिन्न मूल्यों का निर्धारण होता है; प्रकृत वृत्तियाँ समस्या रूप में नहीं रह जातीं। चेतना को गूढ़ और गहरा बनाना इसे प्रकाशमय बनाना है; यह एक आध्यात्मिक प्रयास है। इस अवस्था में जीवन का तनाव नहीं मिट जाता, व्यक्ति उसके परे मात्र हो जाता है। तनाव से उसकी दैहिक और मानसिक अवस्था क्षीण नहीं होती। मनोवैज्ञानिकों के लिये यह व्यक्ति-विकास की आखिरी सीढ़ी है और यह कथन अतिरंजक नहीं है कि यही दार्शनिकों की आत्म प्रकाश अथवा मुक्ति की अवस्था है।

इस प्रकार मुक्ति अथवा आत्म प्रकाश की समस्या का निरूपण वर्तमान युग में मनोवैज्ञानिको ने दे रखा है। युंग की ऐनिमा, ऐनिमस, ओल्ड वाइज़ मैन, मैगना मैटर इत्यादि धारणाएं उनकी कल्पनामात्र भले ही हों, किंतु इनके द्वारा उन्होंने मन संबंधी जिन सत्य तथ्यों का चित्रण किया है वे अमूल्य हैं। भावात्मक प्रौढ़ता इन सबसे संधि करने पर ही आती है। बिना भावात्मक प्रौढ़ता के आध्यात्मिक विकास कभी संभव नहीं होता जो दार्शनिक और धार्मिक दृष्टि से जीवन को पूर्ण बनाने के लिए उपलब्ध करना आवश्यक है। युंग का कथन है कि अज्ञात मन की विषय-वस्तु जो विभिन्न भाव-प्रतिमाओं (आरचेटाइप्स) के रूप में है ज्ञात मन में आती रहती हैं और उनसे समझौता होता रहता हैं। यह मानसिक स्वातंत्र्य अर्थात् 'साइकॉलजिकल रिडेम्पशन' की अवस्था है और इससे व्यक्ति मानसिक पूर्णता (साइकिक टोटैलटी) प्राप्त करता है जो प्रायः मंडल, गोलाकार इत्यादि प्रतीकों द्वारा अभिव्यक्त होता है। अज्ञात मन के विषय-वस्तु-तथ्य का प्रकृत रूप में प्रवेश हो जाने से व्यक्ति अपने प्रकृत भाव-इच्छा से परिचित हो जाता है। अज्ञात मन मानव क्रिया-व्यापार का सच्चा संचालक है। व्यक्तित्व का क्रमबद्ध विकास होता है। व्यक्तित्व का परिवर्तन इस पर निर्भर है कि मूल रूप से भाव-इच्छा का रुख किधर है, किस भाव-इच्छा का अधिक विकास हुआ है और एक निर्बल और दूसरी सबल तो नहीं है। वृत्तियों के उचित सम्यक् संतोषण और उनकी महत्ता पर 'प्रेरक मनोविज्ञान' में विशेष बल दिया गया है। जीवन से समझौता करने के लिये वृत्तियों पर बाह्य रोक-थाम के लिये मनोविज्ञान की किसी धारा में बल नहीं दिया गया है क्योंकि मनोविज्ञान का कार्य आदर्शों की व्याख्या नहीं करना है बल्कि जो तथ्य जिस रूप में है उसका चित्रण करना है। यह तो प्रकृति का कार्य है। प्रकृति सहायक है, इसमें स्वयं योजना हैं। यह एक पक्षीय नहीं, बहुपक्षीय है। जिस प्रकार मौलिक और शारीरिक क्षेत्र में क्रम-व्यवस्था है—सूर्योदय, सूर्यास्त काल निश्चित है, ऋतुएं निश्चित समय पर आती हैं—उसी प्रकार मानसिक क्षेत्र में भी क्रम-व्यवस्था है। अनेक मानसिक कार्य-पद्धतियों के सक्रिय रहने से विशेष परिस्थिति में भी बाह्य और आंतरिक में अपने आप समायोजन हो जाता है। यही मानसिक योजना है—एक विशेष प्रकार की प्रयोजन युक्त व्यवस्था जिसका अपना बहुत बड़ा योग व्यवहार-क्षेत्र में है।

वृत्ति-भाव स्वतः वर्जित नहीं है और त्याज्य नहीं है, यह तो प्रसंग परिस्थिति का प्रश्न है। एक प्रसंग में जो वर्जित है, दूसरे प्रसंग में वह मान्य है; जो अत्यधिक होने पर विष है औसत रहने पर व्यक्तित्व को निखारने का साधन बनता है और व्यक्तित्व में क्रम-व्यवस्था बंधती है। उनका उपयुक्त पोषड़, जीवन तथा व्यवहार में अभिव्यक्तिकरण तो प्रकृति का काम है। वाह्य सहयोग मिलने पर तो सोने में सुगंध। फ्रायड के शब्दों में व्यक्तित्व अहं इदम् और नैतिक मन का समझौता है। जब एक भाग दूसरे पर हुकूमत करना चाहता है तब व्यक्तित्व में संतुलन नहीं रह जाता। चार्ल्सबर्ग ने फ्रायड के अनुमोदन में लिखा है अश्व का गतिरोध करके जो शक्ति का उद्गम है अश्वारोही रूपी अहम् स्वयं चालित करना चाहता है और अपने अन्य साथियों से अच्छी तरह और अधिक प्रभावोत्पादक रूप में।"

आत्मा की अनश्वरता और इसका एक योनि से दूसरी योनि में प्रवेश अथवा आवागमन की विवरण-व्याख्या भी हमें मनोविज्ञान में अपने ढंग पर मिलती है। आत्मा नश्वर है या अनश्वर, पार्थिव है या अपार्थिव, यह दार्शनिक विवाद का विषय आदि काल से चला आ रहा है। युगान्तर में इसकी व्याख्या मनीषियों ने अपने ढंग से दे रखी है। भारतीय दर्शन में तो स व्याख्या का बहुत महत्व है और सभी भारतीय दर्शन जैसे सांख्य, योग, वेदान्त इत्यादि में टीका-टिप्पणी हुई है। अनश्वर तथ्य मनोविज्ञान में भी मिलता है। ऐसा विचार युंग की सामूहिक अज्ञात मन की धारणा में सन्निहित है। जो भाव प्रतिमाएं सामूहिक अज्ञान मन में है, वे अनश्वर हैं और अनादिकाल से विद्यमान हैं: मुख्यतः यह पौराणिक प्रतिमा है जो पूर्वजों के असंख्य विशेष अनुभवों का परिणाम है। हरेक प्रतिमा मानवीय स्वभाव और भाग्य का चिन्ह है—उस सुख-दुःख आह्लाद-विषाद का इतिहास जो पूर्वजों के जीवन में घटता रहा और अभी भी वही रूढ़ि बनी है। इससे यह स्पष्ट है कि कुछ सत्य और जाति जननशास्त्र संबंधी तथ्य दर्शन में है जिनकी सन्तति एक शरीर से दूसरे शरीर में बनी रहती है। दर्शन आंतरिक है और इसकी विधि निरीक्षण और प्रयोग है। तब भी किसी भी समस्या में पैठ कर समझने का प्रयास करने पर यह स्पष्ट हो जाता है कि दार्शनिक तथ्यों की वर्तमान मनोविज्ञान में केवल समीचीन व्याख्या ही नहीं मिलती बल्कि अपने ढंग से उनकी पुष्टि भी हुई है।

व्यक्तित्व का विश्लेषणात्मक अवलोकन करने पर अब यह प्रश्न आता है कि विशिष्ट प्रतिक्रियाओं का, जिनके द्वारा मानव की आभ्यान्तरिक अवस्था का अभिव्यक्तिकरण होता है, मनोवैज्ञानिक दृष्टिसे विश्लेषण किस प्रकार संभव है,। मनोविज्ञान में विभिन्न धाराएँ हैं और हरेक धारा में मानसिक विषय-वस्तु और मन संबंधी प्रक्रिया का अपने-अपने दृष्टि से विस्तार हुआ है। जेस्टाल्ट ने, जो अणुवाद और साहचर्यवाद की प्रतिक्रिया है और जिसके वर्थीमर, केलर, कौफ़का प्रवर्त्तक हैं, मानसिक प्रक्रिया का टुकड़ों में नहीं एकाई रूप में अध्ययन किया है। व्यवहारवादियों नें व्यवहार को उत्तेजन-प्रतिक्रिया (एस-आर) मात्र माना है और प्रक्रिया को यांत्रिक रूप दे दिया है। प्रवेगवादियों का ध्यान पहले-पहल प्रयोजन तथ्य की ओर गया और फिर 'साइकॉलजी ऑफ माटीवेशन' का इस प्रगति से विकास हुआ कि आगे चलकर हल, गुथरी, टॉलमैन इत्यादि आधुनिक व्यवहार वादियों का भी यह आवश्यक मूल सिद्धान्त माना जाने लगा। इसी से तो अब अमेरिका में प्रचलित

आधुनिक व्यवहारवाद का ड्राइव सेन्टर्ड सिद्धान्त से विरोध नहीं रह गया है। हल की 'रीइन्फोर्समेंट" और टॉलमैन की धारणाओं में प्रयोजन तथ्य सन्निहित है। वस्तुतः अब के मनोविज्ञान की समन्वित संहति (इन्टेगरल सिस्टम ऑफ साइकालजी) में थर्सटन, टॉलमेन, फ्रायड, लेविन शेरिंगटन इत्यादि सबका समन्वय है। तब भी मानव के सामान्य और विशिष्ट क्रिया-व्यवहार-प्रतिक्रिया के व्याख्या-विश्लेषण की दृष्टि से फ्रायड, उनके सहयोगी-समर्थक और इसी ओर नई मान्यताओं को स्थापित करने वालों का प्रभाव निर्विवाद है। कला, धर्म, विकृत व्यवहार इत्यादि विशिष्ट प्रतिक्रियाओं का, जो आंतरिक अवस्था और अनुभूति के विभिन्न बाह्य अभिव्यक्तिकरण हैं, सूक्ष्म विवेचन मनोविश्लेषण और विश्लेषणात्मक मनोविज्ञान में मिलता है। वर्तमान युग में जो अध्ययन हुआ है इससे यह स्पष्ट है कि मानव मन संबंधी कुछ ऐसे भी अभिव्यक्तिकरण हैं जिनका विश्लेषण बिना इनके मूल सिद्धान्तों की सहायता के संभव ही नहीं।

प्राचीन काल में जीवन से संबंधित होते हुये भी कलाकार की रचनाएं पहेली मात्र थीं। मनोविश्लेषण में पहले-पहल कला की वैज्ञानिक व्याख्या देने का प्रयास हुआ है। इस वैज्ञानिक युग में कला की उद्भूति का कारण देवी प्रतिभा नहीं माना जाता; इसमें कलाकार के आंतरिक जगत के संघर्ष का अभिव्यक्तिकरण माना गया है। मनोविश्लेषण के अनुसार कला उन्नत कामशक्ति के जल से सींचा पौधा है, यह कामशक्ति का परिमार्जन है और इसकी सर्वश्रेष्ठ अभिव्यक्ति है। कलाकार अपनी दमन की हुई कामवृत्ति से विकृत नहीं बनता, वह दमित कामशक्ति को परिमार्जित करता है और उसका दिशान्तरण कुछ ऐसी ओर करता है जो संस्कृति के दृष्टि से उच्च वर्ग की हो। परन्तु मूल तथ्य की दृष्टि से इसे विकृत वर्ग की प्रतिक्रिया ही मानना चाहिए। भेद इतना ही है कि विकृत व्यक्ति का भ्रम भ्रान्ति कल्पना इत्यादि समाज की दृष्टि से हेय है और काव्य नाटक चित्र मूर्तियां समाज की उच्च संस्कृति के द्योतक हैं। इसीसे फ्रायड पर आक्षेप भी हुआ है। युंग की व्याख्या अधिक गूढ है और उनकी यह मुख्यतः नवीनता रही कि उन्होंने व्यक्तिगत तथ्यों के साथ अव्यक्तिगत तथ्यों का भी अभिव्यक्तिकरण कला में माना है। मानव के निचले स्तर में अनेक भाव-प्रतिमाएं जैसे एनिमा-एनिमस, आरचेटाइपल इमेज़ आफ द डीटी, इत्यादि हैं और इनका भी दिग्दर्शन कला में होता है। इसी से तो कला का प्रभाव मानव हृदय पर विशेष रूप से पड़ता है। जब कला में व्यक्तिगत रुदन, आशा-निराशा मात्र का अभिव्यक्तीकरण होता है तब यह ऊँचे वर्ग की कला नहीं होती; जिसमें सामान्य तथ्य का अभिव्यक्तीकरण है वह हरेक काल और संस्कृति में प्रशंसनीय मानी जाती है। इसके अतिरिक्त कामवृति की प्रधानता रहते कला में अन्य वृत्तियों का भी अभिव्यक्तीकरण होता है। एडलर की व्याख्या में कायिकहीनता (औरगेनिक इनफीरिऔरिटी) को प्रधानता दी गई है। मानव में सामान्य रूप से आत्मप्रतिपादन की वृत्ति बड़ी बलवती होती है, जब वह इसकी तुष्टि कायिक दोष के कारण नहीं कर पाता वह इसकी पूर्ति कलाकार बन के करना चाहता है। सबका ध्यान आकर्षित करने का यह अच्छा साधन है। यह मान्य नहीं, प्रायः कलाकार रूप सौन्दर्य्य में मोहक होता है।

मानव के आंतरिक अवस्था का अभिव्यक्तीकरण धर्म और उससे संबंधी कृतियों में

भी होता है। धर्म संबंधी कृत्यों का वैज्ञानिक विश्लेषण पहले-पहल मनोविश्लेषण में ही मिलता है और यह कहना आधारहीन है कि मनोविश्लेषण ने धर्म की आस्था ही मिटा दी है। इसमें हमें एक नये ढंग की व्याख्या मिलती है। मनोविश्लेषण के अनुसार धर्म भी दमित कामवृत्ति का उन्नयन है। जो अपनी कामवृत्ति को परिमार्जित करता है वह धर्मानुयायी बनता है; जो दमित कामवृत्ति को परिमार्जित नहीं कर पाता वह विकृत व्यवहार करता है। इस प्रकार धार्मिक क्रियाएँ और विकृत व्यवहार में भेद नहीं है। रहस्यवादियों के अनुभूति की तो इसमें कटु आलोचना हुई। 'प्रिय' अथवा ईश्वर से मिलन की कल्पना में आनन्दविभोर होना, आँसू ढालना एक प्रकार की रुग्ण प्रतिक्रिया मानी गयी है। आगे चलकर मनोविश्लेषण में इस व्याख्या में परिवर्तन किया गया और इसे नैतिक मन का प्रक्षेपण माना जाने लगा। रहस्यवादियों का नैतिक मन बलशाली होता है; अपने नैतिक मन का प्रक्षेपण करने के लिये वह विषय-वस्तु ढूंढता है और यही उसकी व्याकुलता की पृष्ठभूमि है। युंग ने फ्रायड की आलोचना की है। वस्तुतः जैसा युंग का भी कथन है मानव में अन्य वृत्तियों की तरह एक धार्मिक वृत्ति भी होती है जिससे प्रेरित होकर वह यह विशिष्ट व्यवहार-प्रतिक्रिया करता है। इस वृत्ति के होने के ही कारण अकस्मात् उसमें आध्यात्मिक जागृति होती है और एकबारगी उसका व्यक्तित्व एक दूसरा ही रूप ले लेता है। इसका प्रमाण स्वप्न में भी मिलता है जिसमें धार्मिक प्रतीकों का बाहुल्य है। मानव के अज्ञात मन में अनेक प्रतिमाएं हैं और उनमें एक दैव-प्रतिमा (आरचेटाइपल इमेज ऑफ द डीटी) भी है जिनकी ओर ज्ञात मन में जागृति होने पर व्यक्ति का व्यवहार और प्रतिक्रियाएं धार्मिक हो जाती हैं।

इसी प्रकार स्वप्नानुभूति और विकृत प्रतिक्रियाओं की व्याख्या भी व्यक्ति के आंतरिक संघर्ष और तनाव के प्रसंग में वैज्ञानिक रूप से दी जा सकती है। ये सब रक्षार्थ प्रतिक्रियाएँ हैं। जो व्यक्ति भावना-ग्रंथियों से विशेष त्रस्त है, उसकी प्रतिक्रियाएं रुग्ण वर्ग की होती हैं। अज्ञात मन की विशद व्याख्या इस प्रसंग में आवश्यक है। कामवृत्ति का दमन तथा इससे संबंधित आंतरिक जगत में संघर्ष विकृत व्यवहार का विशेष कारण है। युंग के अनुसार यह अवस्था भावना-ग्रंथियों के स्वतंत्र रूप से क्रियमाण होने पर विशेष रूप से आती है। हीनत्व ग्रंथि पर एडलर की समूची व्याख्या निर्भर करती है।

आंतरिक द्वन्द्व को जानने-समझने के लिये अनेक मनोवैज्ञानिक युक्तियां हैं। वस्तुतः इनमें 'मनोविश्लेषण' ही सबसे गूढ़ है। इसके द्वारा मानव के गूढ़ स्तर में पैठा जा सकता है। फ्रायड तथा उनके अनुयायियों ने व्यवहार संबंधी समस्या का विश्लेषण अपने ढंग से किया है। आगे चलकर नवफ्रायड वादियों हार्नी, सलिवन, फ्रौम, थाम्पसन ने प्रमाणित किया कि मानव व्यवहार-प्रतिक्रिया का निर्धारक सांस्कृतिक अवस्था है और इस प्रकार फ्रायड के वृत्ति-सिद्धान्त का खंडन किया है। यह कोई विशेष बात नहीं है। फ्रायड ने अपने जीवन काल में ही अपने मूल सिद्धान्तों में परिवर्तन किया और इससे उसकी विशालता का दिग्दर्शन होता है। यह एक वैज्ञानिक की सच्ची आत्मा है: बहुत कुछ अनुभूति का प्रश्न है। भाव-विचार की शृंखला में परिपक्वता आने पर इस प्रकार का संशोधन उस व्यक्ति की कमी को नहीं बल्कि उसकी क्षमता और वैज्ञानिक होने का साक्षी है। एक विचारक आगे

बढ़ता है, मूल तथ्य कुछ अपनी ओर से अपने निरीक्षण और अनुभूति के आधार पर जोड़ता है, घटाता है, समुचित संशोधन करता है और वस्तुतः यही उसकी नयी रचना (क्रिएटिविटी) है। नवीनता का अर्थ नये मूल तथ्यों का उत्पादन नहीं करता है, जो है उनको विभिन्न रूप से संयुक्त और विलग करने में हमें नवीनता का आभास होता है और इसी में भौतिक दृष्टि से नवीनता अन्तर्हित है। यदि यह बात एक वैज्ञानिक के ही जीवन काल में घटती है तो इसमें आश्चर्य क्या। यह वैज्ञानिक प्रगति का लक्षण है।

वीसवीं शताब्दी के मनोविज्ञान की विशेपता है कि इसमें प्रयोजन (परपज) संघटन (आरगैनीजेशन) और सामाजिक विशेषीकरण (सोशल कनडीशनिंग) पर ही बल दिया गया है। टॉलमैन और हल इत्यादि आधुनिक व्यवहारवादियों ने भी अपने ग्रंथों में प्रयोजन और संघटन की धारणाएँ सन्निहित की हैं। वर्तमान युग में व्यक्तित्व, व्यवहार-प्रतिक्रिया मूल में सांस्कृतिक (कलचरली ओरियेन्टेड) मानी गयी है—व्यक्ति संस्कृति नियम-परम्परा से बंधा है। संस्कृति के अनुरूप गुण-विशेषता और मानसिक रुख (एटीट्युड) का विकास होता है। हरेक जाति, देश, कालकी अपनी कला और विशेषता प्राचीन काल से मिलती रही हैं और यह मूल रूप से उस स्थान की प्रचलित संस्कृति के ही कारण है। एक संस्कृति में एक गुण-विशेषता मान्य है, दूसरी संस्कृति में दूसरी गुण-विशेषता; और जहां जिसके लिये प्रोत्साहन है वही व्यवहार का निर्धारक बनता है। जापान की संस्कृति में पारिवारिक गठन पर विशेष बल दिया गया है। बाल्यावस्था में पूर्ण स्वतंत्रता दी जाती है, किसी प्रकार का प्रतिबंध-बंधन नहीं रहता। बालक माता-पिता का विशेष स्नेह-भाजन रहता है। किशोरावस्था में आने पर कठिन अनुशासन रखा जाता है, अमेरिका की 'डेटिंग' की प्रथा की यहाँ कड़ी आलोचना ह। इस प्रकार से माता-पिता के दो विरोधी व्यवहार को पाकर पनपता हुआ बालक आंतरिक क्षेत्र में तनाव, संघर्ष, संवेगात्मक हलजल का अनुभव करता है। फलस्वरूप मानसिक आघात होता है और कठोर अनुशासन के कारण परपीड़न प्रकार के व्यक्तित्व के विकास की संभावना बढ़ती है और मानसिक दुर्बलता की विशेषता जम जाती है। सामाजिक नियम-परम्परा का कठिन बंधन रहने से, वह कभी भी अपने को निर्बाध नहीं समझता। जर्मनी का सामाजिक संघटन सामान्यतः जटिल है; युद्ध के कारण यह और भी जटिल हो गया है,। पिता के कठोर अनुशासन में पलने के कारण बालकों में प्रारम्भ से ही शासक वर्ग के प्रति सम्मान का भाव रहता है, शिक्षा कठोर-निमित्त अनुशासित, शासकीय और सैनकीय प्रकार की होती है और व्यक्ति परिश्रमी सच्चा और इमानदार बनता है। पुरुषत्व उच्च गुण माना गया है, दया सहानुभूति स्त्रीत्व गुण और मानव की कमजोरी का लक्षण है। सैनिक जीवन व्यतीत करना तथा युद्ध में भाग लेना पुरुषत्व है। अमेरिका में बाल्यावस्था में बच्चों पर कठोर अनुशासन रखा जाता है और किशोरावस्था में पूर्ण स्वतंत्रा दी जाती है। अमेरिका के उद्योग के अनुसार वहाँ का निवासी भौतिकवादी होता है और उनका एक मात्र ध्येय आर्थिक सफलता प्राप्त करना है। यह लगन ऐसी तीव्र रहती है कि असफलता का भय घेरे रहता है। इससे मानसिक मौलिक व्यक्तित्व दुर्बलता आती है। वस्तुतः संस्कृति के अनुकूल ढाला जाता है। भारतीय संस्कृति पृथक् होने के कारण व्यक्ति एक दूसरे रूप में ढाला गया है। भारतीय दर्शन और धर्म

का सम्यक् वृहत् ज्ञान होने पर ही किसी स्थिति विशेष में भारतीयों की विभिन्न प्रतिक्रियाओं का अनुमान लगाया जा सकता है। मुझे तो जातीय राष्ट्रीय विभिन्नता का मूल कारण उस जाति और राष्ट्र के सांस्कृतिक इतिहास में छिपा मालूम पड़ता है। मूल में भेद नहीं होता, रूप विभिन्न मिलता है।

इस कारण मानव के व्यवहार-प्रतिक्रिया के बारे में अवगत होने के लिए वृत्ति-प्रवृत्ति और सांस्कृतिक दोनों ही अवस्थाओं से परिचित होना आवश्यक है। संस्कृति को विशेष महत्ता देने का यह कारण है कि सांस्कृतिक अवस्था पर ही शारीरिक और मानसिक मांगों की तुष्टि निर्भर करती है : संस्कृति के अनुकूल एक तो उसकी तुष्टि होती है और कभी वर्जित मानकर उन्हें चेतना में नहीं आने दिया जाता, दूसरे संस्कृति के अनुरूप ही ये सब एक विशेष प्रकार से तुष्ट की जाती हैं। इसी से तो हाव्स, निटशे इत्यादि कुछ मनषियों को छोड़कर सब संस्कृति-वातावरण के प्रभाव के ही पोषक हैं। किंतु संपूर्ण अध्ययन-समाधान एक दृष्टि से संभव नहीं। मानव व्यवहार के अध्ययन के लिए एक पक्ष पर चिंतन करना अनुचित है; सम्यक् अवलोकन-चिंतन ज्ञान-आस्था आवश्यक है।

संक्षेप में वर्तमान युग संघर्ष का युग है। परिस्थिति के कारण तनाव, अन्तर्द्वन्द्व मानव की निधि बन गई है। इससे मानव की आसक्ति है, वह लिपटा रहता है। विज्ञान की उन्नति होने से धर्म और दर्शन में आस्था कम हो गई है। वस्तुतः मनुष्य यंत्र नहीं, वह कुछ और है। मेरी आस्था तो मानव के क्रमिक विकास में है। वह आपोआप एक अवस्था पाकर दूसरी अवस्था में प्रवेश करता है। तब भी व्यक्तित्व-व्यवहार स्थिर और एक रूप नहीं रहता। मानव अनेक रूप में हमारे सम्मुख आता है। हमें नई-नई मनोवैज्ञानिक युक्तियां ढूँढना है जिससे व्यक्तित्व-विकास का सम्यक् अध्ययन कर सबको इससे परिचित करा सकें। मन के निचले स्तर से समझौता करके व्यक्तित्व का विकास करना वर्तमान स्थिति के लिए आवश्यक है। यह मानसिक परिवर्तन होने पर ही जीवन की समस्या दार्शनिक, धार्मिक दृष्टि से भी सुलझ सकती है। यही तो मनोविज्ञान की विशेषता और महानता है।

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जैनेन्द्र के औपन्यासिक नायक

—विजयशंकर मल्ल—

आज से प्राय: तीन दशक पूर्व जैनेन्द्र ने हिन्दी के औपन्यासिक रंगमंच पर ऐसे पात्रों की अवतारणा की जो आश्चर्यजनक रूप से साधारण और आश्चर्यजनक रूप से असाधारण थे। उनके बाह्य रूपावरण को भेद कर उनके मनोलोक की कुछ थोड़ी सी सार्थक गति-भंगिमाओं को देखने का अवसर हिन्दी पाठकों को मिला और इसलिए अपने जीवन के कुछ क्षणों में वे पात्र उन्हें समीपी और आत्मीय से मालूम हुए। प्रबुद्ध पाठकों को, विश्लेषण करने पर, वे अंतर्द्वन्द्व-पीड़ित, मामूली परेशानियों से घिरे, कुंठाग्रस्त, अच्छाई और बुराई से युक्त साधारण व्यक्ति ही दिखाई पड़े। असाधारण यों लगे कि उन में एक अधखुलापन, एक तरह की रहस्यमयता थी और अपने जीवन के विशिष्ट क्षणों में वे भावना के सामान्य स्तर को छोड़ कर उच्चतर स्तर पर विचरण करते थे। मनोविज्ञान और अध्यात्म के शिखर या गर्त की ओर उन्मुख ये पात्र सजग द्रष्टा की चेतना को प्रबुद्ध करके, विचारमंथन शुरू करके, अपनी शब्दातीत मर्मव्यथा की अस्पष्ट पर तीखी अनुगूंज से प्रतिध्वनित मानसिक वातावरण तैयार करके मानों हाथ से निकल जाते थे।

अपने नए ढंग के पात्रों की अवतारणा के द्वारा जैनेन्द्र ने चेतना के नए क्षितिज का उद्घाटन किया। हिन्दी उपन्यास के अब तक के चेतना-वृत्त से बाहर रह जाने वाले जीवन के कुछ पहलुओं की भावात्मक प्रतीति इनके द्वारा संभव हुई। इस प्रकार जटिलतर मानव-प्रतिमा संघटित हुई और जीवन-बोध के नए मानसिक आयाम सामने आए।

इन पात्रों को लेखक ने सुस्पष्ट व्यक्तित्व नहीं दिया है। कह सकते हैं कि ये सूक्ष्म-शरीरी हैं, ठोस नहीं तरल हैं। इनके बाह्य रूपावरण और कर्मठता को ज्यादा महत्व न देकर लेखक ने इनके भीतरी स्पंदन, आलोड़न और अन्य सूक्ष्म प्रतिक्रियाओं को तरल रेखाओं में निबद्ध किया है। जीवन के विशिष्ट क्षणों में उनकी यह जीवंतता अपनी बाह्य रूपाभि-व्यक्ति को तुच्छ करके अपने जटिल संवेगों में अधिक हृद्य होकर प्रकाशित हो उठती है। प्रेमचंद या उनके समकालीन लेखकों के पात्र बाह्य जगत के अनुषंगों में जीवित रहते थे इसलिए वे स्पष्ट होते थे और अनबूझ उनमें शायद कुछ नहीं बच पाता था। जैनेंद्र के पात्र सामयिक-सामाजिक अनुषंगों से बहुत कुछ असंपृक्त रह कर चिरंतन नैतिक मूल्यों की खोज में भटकने वाले प्राणी हैं जिनका संपूर्ण व्यक्तित्व तो इंद्रियबोध्य और बुद्धिग्राह्य नहीं होता पर जिन्दगी के कुछ खास और निर्णायक क्षणों में वे या तो सहज आत्मीय प्रतीत होते हैं या हमारे विश्वासों को धक्का दे कर हमारी अनुसंधानात्मक वृत्ति को सजग कर देते हैं। अन्य औपन्यासिक पात्रों की तरह जैनेंद्र के पात्र इसलिए नहीं हैं कि वे विश्व-सनीय हों, वास्तविकता या ऐंद्रिय तथ्यों की भूमि पर जमे हुए हों। वे इसलिए हैं कि अपने कार्य और चिंतन के द्वारा एक प्रभाव, एक बेचैनी पैदा कर दें। जैनेन्द्र के शब्दों में

'उपन्यास स्वाभाविक बनने के लिए नहीं है, वह तो एक प्रभाव पैदा करने के लिए होता है, जिसकी रचना इसलिए स्वाभाविक बनाई जाती है कि वह आप के मन पर थोड़ी देर के लिए उतर जाय।'

जैनेन्द्र के अधिकांश उपन्यास नायिका-प्रधान हैं। नायक मानों सिर्फ उन परिस्थितियों का निर्माण करने वाले हैं जिन के बीच में नायिकाओं की जीवन-साधना प्रकाशित होती है। नायिकाओं के आगे वे छोटे और कमजोर लगते हैं। वे सभी किसी न किसी रूप में कुंठा, मनोविकृति, दमन के शिकार और अपनी मध्यवर्गीय स्वाभाविक दुर्बलताओं से ग्रस्त हैं। सुविधाप्राप्त वर्ग की सुखेच्छा, उत्तरदायित्व से कतराने की प्रवृत्ति और आत्मप्रवंचना प्रच्छन्न या प्रकट रूप में उन में बराबर दिखाई देती है।

इनके नायकों का व्यक्तित्व अधिकतर दो स्तरों—मनोवैज्ञानिक और आध्यात्मिक—पर प्रकट हुआ है। अज्ञेय और इलाचंद्र जोशी के औपन्यासिक नायकों में जीवनदृष्टि का अभाव नहीं है पर किसी जीवनादर्श के प्रति उन में ऐसी ऐकांतिक निष्ठा और आग्रह या पूर्वग्रह नहीं। जैनेन्द्र के चरित्र-विश्लेषण की अंतिम परिणति पूर्वनिश्चित आदर्श में होती है जब कि अज्ञेय के विश्लेषण की विशेषता प्रायः नए ढंग की अनुभूतियों के संयोजक तत्वों को सूक्ष्मता के साथ अंकित करने में है। ये विश्लिष्ट अनुभूति-खंड अपने आप में भी महत्व के होते हैं। जैनेंद्र का विश्लेषण ज्ञात और अल्पज्ञात अनुभूतियों को सीधे या कभी कभी रहस्यबर्द्धक कलात्मक संकेतों के द्वारा अपने पूर्वापरबद्ध रूप में प्रकट करता है। कभी कभी उनके चरित्रों की असामान्य अनुभूतियां आध्यात्मिकता के पर्दे में और गूढ़ बन कर पाठक के लिए गरिष्ठ हो जाती हैं। जैनेंद्र के नायक शेखर से तत्वतः भिन्न हैं। शेखर के व्यक्तित्व की प्रखरता और प्रचंडता जैनेंद्र के किसी पात्र में नहीं मिलती। प्रमोद, श्रीकान्त, सत्यधन, डा० असरानी, जितेन, जयंत, जयवर्द्धन—इन सभी नायकों में असंतोष, दमित वासनाओं की घुटन और आत्मपीड़ा भावना के मृदु संवेगों के द्वारा व्यक्त हुई हैं और खतरे से बचाने वाला जीवन-दर्शन इन सब का बहुत बड़ा सहारा है। इसीलिए ये कम से कम व्यवहारतः न तो उठ पाए हैं और न इनकी चारित्रिक दृढ़ता का सक्रिय रूप ही प्रकाश में आ सका है। इलाचंद्र जोशी के पात्र घोषित रूप से मानसिक व्याधिग्रस्त कमजोर आदमी होते हैं और उनकी मनोविकृतियों को अनावृत करके सामने रख देना ही लेखक का उद्देश्य होता है। जैनेंद्र के चरित्र इस हद तक मनोवैज्ञानिक नहीं होते। वे किसी बड़े आदर्श, चाहे वह अव्यावहारिक ही क्यों न हो, की ओर इंगित करते हैं। उनकी मानसिक गतिविधि का चित्रण केवल इस इंगित को सबल या ग्राह्य बनाने के ही लिए होता है।

यदि जैनेंद्र के नायकों को एक सीमा तक रोमाण्टिक कहा जाय तो अनुचित न होगा। वे स्वप्नशील होते हैं, भावुक होते हैं, प्रेमोन्मुख होते हैं और किसी न किसी रूप में असंतोष भी उनमें होता है। उनकी बुद्धि के ऊपर भावना का अंकुश रहता है, पर खतरे को पूर्णतः स्वीकार करने, विद्रोह करने और स्वीकृत मर्यादाओं को भंग करने का साहस उनमें नहीं मिलता। लेकिन रोमाण्टिक नायक के लिए ये अन्तिम बातें भी जरूरी होनी हैं। इसलिये उन्हें एक सीमित अर्थ में ही रोमाण्टिक कहा जा सकता है।

जैनेन्द्र के नायकों की कुछ विशेषताएं सामान्य रूप से सर्वत्र दिखाई पड़ती हैं। ये निम्न या उच्च मध्यवर्ग के कुण्ठाग्रस्त, भावुक व्यक्ति होते हैं। थोड़ी थोड़ी रहस्यमयता इनको कभी आकर्षक बनाती है और अधिक रहस्यमयता वायवी। बुद्धि की दुश्मनी में नायिकाओं ने लेखक का अधिक साथ दिया है फिर भी बुद्धि के सामने भावना को जैनेन्द्र के नायकों ने अक्सर अधिक गौरव दिया है। यों कई मौकों पर उन्होंने अपने को बुद्धिमान ही साबित किया है! 'परख' का सत्यधन आत्मप्रवंचना की कई सीढ़ियों को पार कर कट्टो से दूर होता है और गरिमा से विवाह करता है। यह एक उदाहरण है। इन नायकों के आदर्श ऊँचे होते हैं, या कम से कम छोटे नहीं होते, पर वहाँ तक पहुँचना इनके लिए दुस्साध्य ही होता है। आरम्भ में गांधी जी का आदर्श ओढ़े हुए प्रकट होने वाला सत्यधन किस प्रकार घोर व्यवहारवादी दुनियादार बन जाता है, यह जैनेंद्र के पाठकों को मालूम ही है। 'सुनीता' का श्रीकान्त अपने मित्र हरिप्रसन्न के असंयमित जीवन को बांधने के लिए अपनी पत्नी को सामने करता है और इस प्रकार उसे एक सद्गृहस्थ बनने के लिए प्रेरित करना चाहता है। चाहता है कि हरिप्रसन्न इस प्रकार समाज के लिए और अपने लिए उपयोगी बने। इस नितान्त काल्पनिक लोक के श्रीकान्त और सुनीता का आदर्श ऊंचा हो सकता है पर उसका व्यावहारिक रूप विलक्षण है। 'त्यागपत्र' का प्रमोद भी अत्यन्त संवेदनशील पर कमजोर पात्र है। मृणाल का उद्धार वह नहीं कर पाता। मृणाल एक अद्भुत दृढ़ चरित्र की नारी है जो शरीर से स्खलित होते हुए भी मन और आत्मा से पूर्ण पवित्र है, और आत्मिक सदाचार की एक नयी धारणा प्रस्तुत करती है। फिर भी प्रमोद आदर्शसाधन के लिए उसे अधिक अच्छे मार्ग पर नहीं ले आ पाता। मृणाल के सामने जाने पर उसके मन में यह शंका उठती है कि 'सुधार की जरूरत उनमें है या मुझमें'—यह शंका उठ कर जहां मृणाल को महिमान्वित करती है वहां प्रमोद को कमजोर भी प्रमाणित करती है।

'कल्याणी' के डाक्टर असरानी पुराने संस्कारों के कठोर घेरे में रहने वाले व्यक्ति हैं और सामान्यतः भले आदमी होते हुए भी अपनी आन्तरिक क्षुद्र अहंता के कारण कल्याणी जैसी नारी के घातक होते हैं। 'विवर्त' का नायक जितेन अपनी अभुक्त वासना के कारण भीषण मनोविकृति का शिकार होता है और अपनी प्रेमिका भुवनमोहिनी के प्रेम के प्रभाव से उसकी कुण्ठा दूर होती है। यहां कमजोर नायक, नायिका के प्रभाव से टूटते-टूटते बच जाता है। 'जय-वर्द्धन' उपन्यास का जयवर्द्धन भी एक संघर्षभीरु पात्र है जो मन्त्रिपद से त्यागपत्र देकर सामाजिक राजनीतिक जीवन से ही पलायन नहीं करता बल्कि प्रेयसी इला को छोड़कर एक तरह से जीवन से ही पलायन कर जाता है। "व्यतीत" के जयंत की हालत भी तत्वतः बहुत कुछ ऐसी ही है।

जैनेंद्र के नायक नैतिक मूल्यों की परंपरागत धारणाओं पर गहरी चोट करते हैं। पर जिंदगी में स्वयं वे भटक भी जाते हैं। शारीरिक पवित्रता की जगह वे आत्मिक पवित्रता को मान्यता देते हैं और प्रेम के क्षेत्र में इस आदर्श को सक्रिय रूप में अपनाते भी हैं, पर अपने अहिंसा, आत्मदान, आत्मशुद्धि वाले आदर्शों को चिंतन के ही क्षेत्र में प्रायः सीमित रखते हैं। (इन आदर्शों की चरितार्थता नायिकाओं के ही जीवन में अधिकतर व्यक्त हुई

है।) समाज की मान्यताओं को तोड़ फोड़ कर सक्रिय क्रांति वे नहीं चाहते। वे भावुक हैं, संवेदनशील हैं पर दुर्बल भी कम नहीं। भावना और चिंतन के क्षेत्र में वे जितने सजग हैं उतने कर्म-क्षेत्र में नहीं। भावना के माध्यम से व्यक्ति का परिष्कार करने की व्यक्तिवादी विचारधारा के वे सच्चे पोषक हैं। उनकी आध्यात्मिकता उन्हें भावना के उच्च स्तर पर ले जाती है तो आत्मप्रवंचना भी थोड़ी नहीं सिखलाती।

मनोवैज्ञानिक स्तर पर उनकी अभिव्यक्ति सबल रूप में हुई है। उनके छोटे से छोटे भावस्पंदन को जैनेंद्र ने ऐसी योग्यता से शब्दों में ग्रथित किया है कि जीवन की स्थितिविशष अपनी समग्रता में आलोकित हो उठी है। प्रायः सभी नायक किसी न किसी रूप में कुंठाग्रस्त हैं और आत्मपीड़न या परपीड़न की दुर्दमनीय आकांक्षा से त्रस्त भी।

उनकी विशेषता यह है कि वे अपने उत्थान और पतन में, सुख और दुख के क्षणों में, आत्मचिंतन की स्थितियों में हमारे मर्म को स्पर्श करते हैं। स्वीकृत नैतिक मूल्यों पर वे बराबर गहरी शंकायें उठा कर हमारे विवेक को जाग्रत कर देते हैं, मानव व्यक्तित्व के जटिल और तर्कातीत रूप की झलक देकर लघुता को गौरवान्वित करते हैं। वे सभी 'त्यागपत्र' के प्रमोद के शब्दों में यही कहते प्रतीत होते हैं—"किनारे पर ही रहें, जहाँ पैर धरती से छू जाते हैं। वहीं तक रहें जहाँ हमारा लंगर धरती को पकड़ ले और हम ठहर सकें। बस, बस। उसके आगे जब तब समन्दर के अगाध फैलाव की ओर देख लिया करें, यही क्या कम है। इतना भी बहुत है, बहुत है। ... ... जितनी झेल सकें उतनी ही उस विराट की झांकी ले लें और फिर अपनी धरती के आसपास किनारे-किनारे सब से उलझते-सुलझते जिये चलें। यही उपाय है। यही मानव जीवन है।"[१]

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[१] इलाहाबाद रेडियो के सौजन्य से।

स्वप्नों के कारण और निवारण

अनूप चन्द्र कपूर

हम प्राय: प्रत्येक दिन स्वप्नों के संसार में एक या दो बार घूम आते हैं। कभी वहाँ जाकर भूत, प्रेत, शेर, भालू इत्यादि भयावह वस्तुओं को देख डर के भागते हैं अथवा उस अलौकिक संसार की अप्सराओं के नाच रंग की रंगीनियों में मशगूल हो पड़े रहते हैं। अब यह एक उत्सुकतापूर्ण विषय है कि हम वहाँ से क्यों भागते हैं, क्यों रह जाते हैं ? क्यों नहीं अच्छे ही स्वप्न आया करते ? स्वप्नों के कारण क्या हैं ? आदि, आदि।

स्वप्न हमारा एक सामान्य अनुभव है। हम प्रत्येक दिन स्वप्न देखा करते हैं। किन्तु बहुत से स्वप्न हमें स्मरण नहीं रहते हैं। हम जागते ही उन्हें भूल जाते हैं। अतएव कई लोगों को प्रति दिन स्वप्न देखने का ज्ञान नहीं होता। स्वप्न का देश, काल, जाग्रत अवस्था के देश काल से भिन्न होता है। स्वप्नावस्था में हम जहाँ के तहाँ ही रहते हैं परन्तु ऐसा आभास होता है कि हमारा मन बिना किसी रोक के जहाँ तहाँ घूम आता है। इस समय उसकी वैसी ही अवस्था होती है जैसी उस बालक की जोकि पिता के घर पर रहने तक तो घर में रहता है लेकिन पिता के घर से बाहर निकलते ही वह भी आजाद हो मन माने तौर पर घूमने वा खेलने लगता है। बस ठीक यही दशा स्वप्नावस्था में घूमने वाले मन की भी हुआ करती है। उस समय मन निडर हो आवारों की तरह घूमने लगता है क्योंकि उस समय उसपर नियन्त्रण करने वाला मालिक सोता रहता है।

जागृत अवस्था के दृश्यों से स्वप्नावस्था के दृश्य भिन्न होते हैं। अधिक स्वप्नों का देखना बुरा माना जाता है। स्वप्नों के ऊपर हमारी चेतना का नियन्त्रण नहीं होता है। हम यदि चाहें कि हम स्वप्न में मनमानी वस्तुएँ देखें तो ऐसा नहीं हो सकता है, साथ ही हम स्वप्नों का आना भी नहीं रोक सकते हैं। कई स्वप्न हमारे शरीर के लिये नुकसान-दायक या हानिकारक हुआ करते हैं। वे हमारे स्वास्थ्य को गिराते हैं। प्रत्येक प्रकार के स्वप्नों के पीछे कोई न कोई रहस्य अवश्य रहता है। अतएव स्वास्थ्य के लिए नुकशानदायक स्वप्नों का कारण जानना आवश्यक हो जाता है क्योंकि मनुष्य की जिन्दगी स्वास्थ्य पर ही निर्भर करती है।

स्वप्न का आना शारीरिक अथवा मानसिक उत्तेजना पर निर्भर है। शारीरिक उत्तेजनाएं दो प्रकार की होती हैं—एक स्थित विकारों द्वारा और दूसरी बाहरी पदार्थों द्वारा। इसी प्रकार मानसिक उत्तेजनाएँ भी दो प्रकार की होती हैं—एक जाग्रत अवस्था की अनुभव जन्य और दूसरी अन्तरिक इच्छा जन्य।

स्वप्नों के आने में शारीरिक उत्तेजना का महत्वपूर्ण स्थान है। हमने ऊपर शारीरिक उत्तेजनाओं के दो विभाग किए हैं—परिस्थिति जन्य और शारीरिक विकारजन्य। प्राय: हम स्थानाभाव के कारण अथवा परिस्थिति के कारण गन्दे स्थानों पर सो जाया करते हैं।

अतएव हम ऐसी अवस्था में स्वप्न भी खराब देखते हैं। ऐसा क्यों ? इसका मुख्य कारण यह है कि हम अपनी अचेतन अवस्था में इस प्रकार क्लेश से मुक्त होने की चेष्टा नहीं करते अतएव हमारी दुःखदायक उत्तेजना हमारे बुरे स्वप्नों का कारण बन जाती हैं। मुँह ढककर सोने से भी हम प्रायः बुरे स्वप्न देखते हैं। ऐसा क्यों ? इसका कारण यह है कि नासिका से दुर्गन्धित वायु बार बार नासिका से प्रवेशकर मस्तिष्क में प्रवेश करती है। ऐसी स्थिति में दुःखदायक उत्तेजना हमारे बुरे स्वप्नों का कारण बन जाया करती है।

प्रायः हम गाना सुनते सुनते ही सो जाया करते हैं अतएव इस परिस्थिति के परिणाम स्वरूप स्वप्न भी अच्छे हो आते हैं। लड़ के सो जाने पर स्वप्न भी बुरे दिखाई पड़ते हैं। सोते समय ठण्ढ के लगने से भी व्यक्ति अप्रिय स्वप्न देखता है। मायर महाशय ने तीन प्रकार के स्वप्नों पर अनेक प्रयोग किए हैं। यदि सोते समय किसी व्यक्ति के तलुवे या मुँह पर पानी छिड़क दिया जाय तो वह स्वप्न में बरसात देखेगा।

जिस प्रकार बाह्य उत्तेजना स्वप्नों का कारण है उसी प्रकार आभ्यन्तरिक और शारीरिक विकारों का होना भी स्वप्नों का कारण है—"मिलिंद राजा के प्रश्न"। (मलिन्दपनहा) नामक पुस्तक में निम्नलिखित छः प्रकार के स्वप्न के कारण बताए गए हैं:—

(१) वायु भर जाने से।
(२) पित्त के प्रकोप से।
(३) कफ बढ़ जाने से
(४) देवताओं के प्रभाव से।
(५) बार बार किसी काम को करते रहने से।
(६) भविष्य में होने वाली बातों से।

भविष्य की बातें इसी प्रकार प्रतिबिम्बित होती हैं जिस प्रकार दर्पण में सामने आने वाला पदार्थ प्रतिबिम्बित होता है। स्वप्न देखनेवाला अपने इस प्रकार के स्वप्नों का अर्थ नहीं लगा सकता। इसके लिए विशेषज्ञ की आवश्यकता होती है जिनका चित्त शुद्ध है वे इस प्रकार के स्वप्नों का अर्थ लगा सकते हैं। दूसरा अपने आप नहीं जानता। "जिस प्रकार बुरी जीविका वाले दुराचारी, दुश्चरित्र, पापमित्र, शीलभ्रट, कायर और उत्साह-हीन भिक्षु के पास ज्ञानी लोगों के गुण नहीं आते, उसी प्रकार जागते हुए के पास दिवा कर्ता नहीं आते।"

प्रायः व्यक्ति ज्वर की अवस्था में बुरे स्वप्न देखता है। इसका कारण दुःखावस्था है। शारीरिक विकार है यही नहीं कभी कभी आने वाली बीमारी स्वप्न में दिखाई देती है। यह बीमारी सम्भव है कि उसी रूप में न दिखाई दे जिस रूप में आने वाली हैं। मैं स्वयम् अपना अनुभव बताता हूं। कुछ समय पूर्व की बात है मैंने दो तीन दिन लगातार स्वप्न में फोड़े का आपरेशन देखा। पर कभी भी ऐसा विचार न हुआ कि मुझे भी आपरेशन करवाना होगा। अकस्मात् कुछ समय पश्चात मेरे हाथ में उलटे मुंह का फोड़ा उत्पन्न हुआ और मुझे भी आपरेशन करवाना पड़ा। स्वप्न में राक्षस देखना आने वाली

बीमारी का द्योतक है। इनका वास्तविक कारण शारीरिक उत्तेजनाएं हैं। ये ही उत्तेजनाएं मानसिक प्रतिमाओं (Images) में बदल जाती हैं। हमारे चेतन मन की शक्ति से "अचेतन" मन की शक्ति अधिक है। हम स्वप्न की अचेतन अवस्था में भविष्य की बातों को जान लेते हैं।

अब मैं स्वप्न के दूसरे कारण मानसिक उत्तेजना का वर्णन करूंगा। यह भी मनोविज्ञान का एक मुख्य विचार है। स्वप्न के प्रमुख कारण मानसिक उत्तेजनाएं होती हैं। ये दो प्रकार की होती हैं—परिस्थिति के अनुभवों से उत्पन्न और आन्तरिक इच्छा जन्य। हमारे अधिक स्वप्न जाग्रत अवस्था की उत्तेजनाओं से पैदा होते हैं। यदि हम सिनेमा का गाना गाते २ सो जाते हैं तो स्वप्न में भी विरही कोयल की तरह कूकते रहते हैं। नाच देखते देखते सो जाते हैं तो स्वप्न में नाचते रहते हैं। मैं स्वयम् अपना अनुभव बताता हूं। अब तक मैंने साइकिल चलाना न सीखा था। अतएव इच्छा हुई की सीख लूं। अतएव साइकिल सीखने लगा। अब क्या देखता हूं कि हर वक्त साइकिल की धुन सवार रहती थी। स्वप्न में भी साइकिल ही चलाता रहता था।

फ्रायड महाशय ने स्वप्नों के कारणों पर एक नया प्रकाश डाला है। इनके अनुसार हमारे सभी स्वप्नों का कारण हमारी दबी इच्छाएं हैं।

जीवन को सुखमय बनाने के लिये मनुष्य कुछ न कुछ सोचता ही रहता है। न जाने मानव प्रतिदिन कितने ही हवाई किलों का निर्माण करता तथा उन्हें ढाता रहता है। ये कार्य भी मनुष्य का एक आवश्यक कार्य है। मनुष्य के जीवन में कई इच्छाएं रहती हैं ये इच्छायें स्वभावजन्य हैं। ये तो हम जान ही गये कि इच्छाएं स्वाभाविक हैं पर प्रत्येक इच्छाओं की पूर्ति मनुष्य जीवन में सम्भव नहीं है। कुछ इच्छाओं की पूर्ति वह समाज, लोक, वंश परम्परा के कारण नहीं कर सकता है और कुछ की वह कर पाता है। अतएव इच्छाएं दो प्रकार की हुई—एक नैतिक इच्छाएं दूसरी अनैतिक इच्छाएं।

अब प्रश्न है कि आखिर इन इच्छाओं की पूर्ति होती कहां है और नहीं होती तो उसका प्रभाव मनुष्य के चरित्र, मस्तिष्क, स्वास्थ्य पर कैसा पड़ता है? हमारी अधिक से अधिक नैतिक इच्छाओं की तृप्ति जाग्रत अवस्था में ही हो जाया करती है चेतन-मन इनकी पूर्ति में विरोध नहीं उत्पन्न करता है। पर दूसरी ओर अनैतिक इच्छाओं की पूर्ति हम नहीं कर पाते हैं इनकी पूर्ति जाग्रत अवस्था में सम्भव नहीं है। इनका विरोध हमारा मन, सामाजिक, धार्मिक, नैतिक, राजनैतिक दृष्टिकोणों से किया करता है।

ये तो साधारण जीवन की ही बात है कि हमारे जिस कार्य की पूर्ति नहीं होती उसके लिये हमें क्लेश होता है। भूख नहीं लगती। निराशा बनी रहती है अर्थात् हम दुःखी रहते हैं। अतएव हमारी जिन इच्छाओं की पूर्ति या तृप्ति जाग्रत अवस्था में ही हो जाया करती है वे इच्छायें शान्त हो जाती हैं। वे मानवीय मन में किसी प्रकार की उत्तेजना का कारण नहीं बनती। पर दूसरी ओर जिन उत्तेजनाओं की तृप्ति नहीं होती वे शान्त नहीं होती बल्कि अनेक प्रकार की अन्य मानसिक उत्तेजनाएं पैदा करती हैं। ये

उत्तेजनाएं व्यक्ति के अचेतन" मन में डेरा डाले रहती हैं और अर्द्धचेतन अवस्था में प्रकाश में आने के लिये प्रयत्न करती हैं। स्वप्न इन्हीं दबी हुई वासनाओं के कार्य हैं।

मनुष्य की वासनाएं स्वप्न में प्रकाशित होती हैं तथा अपनी तृप्ति के लिये नाना प्रकार के नकली कृत्रिम स्वांगों की व्यूह रचना करती हैं। पर यदि यह सोचा जाये कि स्वप्नावस्था में मनुष्य का नैतिक मन पूर्ण रूप से अचेतन रहता हो तो ऐसी बात नहीं है। हमारी पाशविक भोगेच्छाएं इस मन के प्रभाव से डरती हैं। अतएव नाना प्रकार के स्वांग रचकर प्रकाश में आती हैं। अब प्रश्न यह है कि आखिर ये स्वांगों के व्यूह रचना क्यों की जाती है ? तो इसका एक मात्र उत्तर है कि नैतिक मन की आंखों से बचने के लिये। जिस प्रकार समाज में रहने वाले चोर डाकू पुलिस के भय से चोरी नहीं कर पाते हैं, छिप कर कार्य करते हैं उसी प्रकार हमारी भोगेच्छाएं स्वप्नावस्था में भी अपनी तृप्ति खुलकर नहीं कर पाती हैं। अतएव चोर डाकू की भांति ये भी स्वांग की योजनाएं करती हैं। स्वप्न इस तरह सांकेतिक रूप से दबी हुई भोगेच्छाओं को किञ्चित तृप्त करने की चेष्टा है। मनुष्य के जीवन की प्रबल वासना काम की वासना है। इसी से फ्रायड महाशय ने कहा है कि हमारे अधिक स्वप्नों का कारण काम वासना ही है। पानी में तैरना, हवा में उड़ना, पहाड़ों पर चढ़ना, खोहों में घुसना, पीड़ित होकर भागना और बच्चों के साथ खेलना ये सभी स्वप्न कामवासना की रूपान्तर तृप्ति के ही सूचक हैं।

कामवासना ही स्वप्नों की उत्पत्ति का कारण हो ऐसी बात नहीं। मनुष्य के कई स्थायी भाव भी स्वप्न के कारण बन जाया करते हैं। हमारे रोज के चलायमान जीवन में जिन स्थायी भावों का प्रकाशन हो जाता है उसकी शक्ति क्षीण हो जाती है अतएव वे स्वप्नों का कारण नहीं बनते। परन्तु कुछ स्थायी भाव जिनका विरोध नैतिक मन द्वारा होता है वे उद्वेगात्मक स्वप्नों का कारण बन जाते हैं। इन उद्वेगात्मक स्वप्नों की उत्पत्ति को श्रेय देने वाले कारण बैर, ईर्ष्या, लोभ, आदि हैं। ये स्थायी भाव, मनुष्य के मन में मानसिक ग्रंथि के रूप में रहते हैं जिनके बारे में जानना स्वयम् व्यक्ति के लिये कठिन हो जाता है। ऐसी ही मानसिक ग्रन्थियां जटिल स्वप्नों का कारण बन जाती हैं। स्वप्नों में अपने सम्बन्धी की मृत्यु देखना, राक्षस से युद्ध करना, ऊपर से गिर पड़ना आदि भयंकर स्वप्न अवांछनीय मानसिक ग्रन्थियों के परिणाम होते हैं। दूषित मन कई विचित्र प्रकार के स्वप्न देखता है। स्वप्न में गुरू की मृत्यु देखने वाला व्यक्ति हो सकता है कि जाग्रत अवस्था में पिता से दुःखी होने के कारण उसकी मृत्यु की कामना करता हो। ऐसा सम्भव है। इसी प्रकार से ईर्ष्यालु व्यक्ति या द्वेष, घृणा से संयुक्त व्यक्ति ऐसे स्वप्नों को देखा करता है जिससे कि उसके भावनाओं की आंशिक तृप्ति होती रहे। ये भाव स्वप्न में उसी व्यक्ति के प्रति प्रगट हो सकते हैं जिस पर वे पहले पहल आरोपित हों अथवा दूसरे किसी व्यक्ति के प्रति स्थायी भावों का स्थानान्तरित होना एक साधारण मानसिक अनुभव है। जो व्यक्ति किसी विशेष व्यक्ति को घृणा की दृष्टि से देखता है वह उस व्यक्ति के अभाव में किसी अन्य तत्सम्बद्ध व्यक्ति को घृणा से देखने लगता है। यह कार्य हमारी जाग्रत अवस्था में होता है। स्वप्न और जाग्रत अवस्था में भय केवल दृश्यमान पदार्थों का रहता है पर वास्तव में हमारे जाग्रत अवस्था तथा स्वप्नावस्था के भाव एक से रहते हैं। उदाहरण

के लिये यदि हम किसी से घृणा करते हैं तो अपने भावों की अभिव्यक्ति के लिये किसी को आलम्ब बनाते हैं उसी प्रकार से स्वप्नों में भी आलम्ब बनाया करते हैं जिनके सहारे हमारे भावों की अभिव्यक्ति होती है। इस प्रकार आरोपण के लिये हम विशेष पदार्थ की तलाश करते हैं। जाग्रत अवस्था का पदार्थ मन द्वारा निर्मित नहीं होता पर स्वप्नावस्था का पदार्थ मन द्वारा निर्मित होता है।

अतएव यह एक स्मरणीय तत्व है कि स्थायी भाव जिस स्वरूप में जाग्रत अवस्था या वास्तविक जगत में उपस्थित होते हैं उसी रूप में वे स्वप्न में नहीं प्रकाशित होते हैं, अर्थात् दोनों में साम्य न होकर विभिन्नता रहती है। उदाहरण के लिये—कभी कभी हम अपने शत्रु द्वारा कष्ट की असह्य पीड़ा से व्याकुल हो उसके नाश के लिये व्यूह रचना या षड्यन्त्र बनाया करते हैं पर स्वप्न में ऐसा नहीं करते। जाग्रत अवस्था में हम दूसरों से घृणा करते हैं, पर इसके विपरीत स्वप्नावस्था में दूसरों के दृष्टिकोण में स्वयम् घृणाके पात्र बन जाते हैं। इस प्रकार हम स्वप्नावस्था या स्वप्नलोक में अनेक विपरीत बातों को पाया करते हैं।

इस प्रकार की स्थिति हमारी आत्मा की उत्तेजनारहित इच्छा के कारण होती है। ब्राउन महोदय का कथन है कि मनुष्य में मृत्यु की अज्ञात इच्छा उतनी ही प्रबल है जितनी जीने की। इसको उन्होंने निर्वाण की इच्छा कहा है। यह इच्छा उत्तेजनारहित होने की इच्छा है। वास्तव में यही इच्छा अनेक स्वप्न दर्शन का मूल कारण है।

अब एक अन्य मनोरंजक प्रश्न है, क्या स्वप्न निद्रा भंग करते हैं ? नहीं ऐसी बात नहीं। स्वप्न निद्रा को दृढ़ तथा गहन बनाते हैं। स्वप्न निद्रा की रक्षा करते हैं। नींद निर्वाण की इच्छा की सूचक है। यह प्रतिदिन के निर्वाण की अनुभूति है जिसके बिना कोई मनुष्य जी नहीं सकता। ब्राउन महाशय का कथन है कि यदि हमें स्वप्न न हो तो नींद भी न हो।

कुछ स्वप्न हमें आदेश के रूप में अर्थात् आदेशस्वरूप आया करते हैं। यह हमारी अन्तरात्मा के आदेश मात्र हैं। कभी कभी हम विकट परिस्थिति में पड़ जाया करते हैं और जब उसके निवारण का मार्ग नहीं दृष्टिगोचर होता तो हमारी वह अवस्था आन्तरिक अवस्था से तादात्मय स्थापित करती हैं अर्थात् हमारी इच्छा की जब पूर्ति नहीं हो पाती है तो वह आदेशात्मक स्वप्नों का कारण बन जाती है। इस प्रकार के आदेशात्मक स्वप्न कई बार वास्तव में उचित मार्ग दिखाते हैं। जिस निष्कर्ष पर हम विचार द्वारा नहीं पहुँच पाते हैं वह निष्कर्ष हमें स्वप्न में दृष्टिगोचर होता है। हमारे चेतन मन की युक्तियां चेतन मन के ज्ञान से परिमित रहती हैं वस्तु स्थिति में ऐसी अनेक बातें होती हैं जिनका ज्ञान हमारी चेतना को कभी नहीं होता। ऐडलर महाशय का कथन है कि मनुष्य अपनी विक्षिप्त अवस्था में ही किसी काम के करने के पूर्व उसके सभी पहलुओं पर विचार करता है। हमारे साधारण निर्णय कुछ हमारी अज्ञात प्रवृत्तियों और कुछ चेतन मन की युक्तियों की सहायता से होते हैं। जो व्यक्ति किसी निर्णय के समस्त हेतुओं पर विचार करता है वह कठिनता से किसी निर्णय पर पहुँचता है और उसका मन डाँवाडोल रहता है।

'अचेतन' मन ही हमारे जीवन के अधिक कार्य निश्चित करता है। 'अचेतन' मन का आदेश जब हमारी जाग्रत अवस्था में हमें प्रभावित नहीं कर सकता तो वह स्वप्न में प्रगट होता है। जब चेतन मन के विचार और 'अचेतन' मन के विचार और प्रवृत्ति में बिरोध होता है तब प्रायः इस प्रकार के स्वप्न होते हैं।

युंग महाशय का स्वप्न के विषय में एक बड़ा विलक्षण सिद्धान्त है। उनके कथनानुसार स्वप्न हमारी वर्तमान मानसिक स्थिति और उसकी आवश्यकता को प्रदर्शित करता है। मानसिक रोगियों की चिकित्सा करने वाले चिकित्सक को बड़े विचित्र स्वप्न होते हैं जो कि उसे चिकित्सा में सहायता प्रदान करते हैं। इन स्वप्नों में अपने स्वास्थ्य लाभ के लिये क्या करना चाहिए इस बात का आदेश रहता है। इन आदेशों को समझ कर युंग महाशय बहुत से रोगियों की सफल चिकित्सा करने में समर्थ हुये हैं।

मनुष्य के कुछ स्वप्न भावी घटनाओं के सूचक होते हैं। इस विचार का समर्थन वैज्ञानिक जगत नहीं करता। आधुनिक विज्ञान जड़वादी है अतएव इस प्रकार के स्वप्नों में विश्वास करना उसके मतानुसार अन्धविश्वास का समर्थन करना है। विज्ञान सिर्फ इतना मानने को तैयार है कि घटनाओं की सम्भावना स्वप्न में देखी जा सकती है। वैज्ञानिक दृष्टिकोण से यह हमारे मन की कल्पना मात्र है अतः यह कल्पना सत्य तथा असत्य दोनों हो सकती है।

स्वप्न में चेतन तथा 'अचेतन' मन की इच्छाओं की पूर्ति होती है—इस पर अब मैं विचार करूंगा। यह भी एक दिलचस्प विचारणीय विषय है। जैसा कहा जाता है कि चेतन मन की इच्छाएं स्वप्न में अपने को चरितार्थ किया करती हैं। बालकों में यह बहुत सरलता से देखा जाता है क्योंकि उनमें इच्छाओं का दमन कम रहता है। फ्रायड ने इसका बहुत अच्छा दृष्टान्त दिया है। फ्रायड वियेना के डाक्टर रहे। फ्रायड के एक मित्र अपने बच्चों को 'रुअर कुटी' स्थान घुमाने ले जा रहे थे किन्तु संध्या हो जाने से उनको रास्ते से लौट आना पड़ा। उसमें से एक बालक ने सोते समय स्वप्न देखा कि वह रुअर कुटी पहुंच गया है तथा वहां बहुत आनन्द से घूम रहा है।

इसी प्रकार जब प्यासे को पानी पीने का अथवा जिस व्यक्ति को प्रातः काल जल्दी उठने की इच्छा न हो उसको काम में लगे रहने का स्वप्न भी काल्पनिक इच्छा पूर्ति का साधन है इन साधनों से निद्रा बनी रहती है तथा मन की इच्छाएं आंशिक रूप से चरितार्थ हो जाती हैं जैसे चेतन मन की इच्छाओं के विषय में है उसी प्रकार 'अचेतन' मन की इच्छाएं भी स्वप्न में अपने को चरितार्थ करती पायी जाती हैं क्योंकि अचेतन मन की इच्छाओं को दबा रखने में अर्न्तद्वन्द्व होता है तथा व्यक्तित्व के अन्दर तनाव आ जाता है। यदि ये इच्छाएं स्वप्न में अपने को व्यक्त न कर पायें तो व्यक्ति को पूरा विश्राम न मिले इसलिए गहरी नींद के लिये इनकी अभिव्यक्ति आवश्यक है। इसके अतिरिक्त दूसरी आवश्यकता यह है कि यदि दबी हुई वासनाएं स्वप्न के रूप में प्रगट न होवें तो जाग्रत अवस्था में प्रगट होने के लिए और अधिक विकृत रूप धारण कर लेंगी स्वप्न की अवस्था में अचेतन मन की इच्छाएं अपना रूप बदल लेती हैं इसके विषय में फ्रायड ने स्वयं लिखा है–

The dream-thoughts are descriptions of the same content in two different languages............the dream content appears to us as a translation of the dream thoughts into another mode of expression."

'अचेतन' मन, चेतन मन के नैतिक प्रतिबंध से सदा डरता रहता है अतएव अचेतन मन की गुप्त इच्छायें चेतना के समक्ष आने के पूर्व अनेक प्रकार की स्वांग रचना कर लेती हैं। गुप्त संकेतों से लिखित पत्र के अर्थ की तरह इन प्रगट स्वप्नों Manifest dreams के अन्तर्निहित गुप्त स्वप्न विचार Latent content को हम तब तक नहीं समझ सकते जब तक कि उन संकेतों के अर्थ को ठीक से समझ न लें। अचेतन मन अपनी इच्छाओं को स्वप्नों में प्रतिबंध व्यवस्था Censor के प्रतिबंध से बचाकर जिन साधनों से प्रगट करता है वे निम्नलिखित है :—

(क) मूर्तीकरण Concretion :—अचेतन मन की भाषा शब्दों में न हो कर चित्रों में होती है। इस कारण स्वप्न में विचार पर्याय के रूप में प्रगट होता है। इस प्रकार स्वप्न में कठिनाइयां एक दीवार अथवा पहाड़ की तरह दिखलाई दे सकती हैं। हताश disappointment अन्धकार के रूप में तथा प्रसन्नता और उत्साह एक सुन्दर अलौकिक दृश्य का रूप ग्रहण कर सकता है। दृष्टान्त, एक स्त्री को एक विवाहित पुरुष से प्रेम था। उसने स्वप्न में देखा कि एक जिराफ़ एक वृत्त के चारों ओर घूमा तथा उसने एक बिल्ली को लात मार दी। यहाँ वृत्त विवाह की अंगूठी का प्रतीक है। जिराफ़ पर-पुरुष का प्रतीक है, जिसकी गर्दन लम्बी थी तथा बिल्ली उसकी स्त्री का प्रतीक है जिसको कि स्वप्न द्रष्टा 'कैटिश' कहकर गाली देती थी।

(ख) रूपान्तरण Displacement :—Censor प्रतिबंध व्यवस्था के प्रतिबंध से बचने का यह सबसे महत्वपूर्ण साधन है। रूपान्तरण में जिसके प्रति द्वेष अथवा काम की भावना अथवा अनैतिक विचार होते हैं उसके स्थल पर अन्य व्यक्ति के प्रति ये इच्छाएँ प्रगट होती दिखाई देती हैं। एक युवक बार बार स्वप्न देखता था कि उसके चाचा की मृत्यु हो गई जिसकी मृत्यु पहले ही हो चुकी थी। विश्लेषण करने से पता चला कि यह स्वप्न वह आर्थिक कठिनाई के समय देखा करता था तथा चाचा उसके पिता का रूपान्तरिक प्रतीक मात्र रहा।

(ग) आरोपण Projection आरोपण रूपान्तरण का एक विविध रूप है इसमें व्यक्ति अपनी इच्छाएँ तथा अपने मन के विचार दूसरों पर आरोपित कर देता है। इस प्रकार दूसरों को सताने की इच्छा रखने वाला स्वप्न में अपने को सताया जाता देखता है। जो स्त्री स्वयं काम वासना रखती है वह स्वप्न देखती है कि दूसरे व्यक्तियों से वह पीड़ित है। जो व्यक्ति निन्दनीय विचार अथवा व्यर्थ के कारण स्वयं अपने 'नैतिक मन super ego' द्वारा कोसा जाता है वह बातें सुनता है कि कोई अदृश्य व्यक्ति उसे धिक्कारता है अथवा समझाता है कि लोग उसपर थूकते हैं अथवा स्वप्न देखता है कि पुलिस उसको पकड़ने आई है तथा उसे मृत्यु दंड होगा।

(घ) आकुंचन तथा विस्तारण Condensation and Secondary Elaboration: इच्छाओं के वास्तविक रूप को छिपाने के लिए तथा उनकी अभिव्यक्ति मन की भाषा के

अनुकूल बनाने के लिए ये भी साधन हैं। कभी बहुत बड़ी घटना तथा अनेक जटिल इच्छायें बहुत थोड़े प्रगट स्वप्न का रूप ग्रहण कर लेती हैं तथा कभी बहुत थोड़ी मन की बात बहुत लम्बी कहानी के रूप में स्वप्न में प्रगट होती है।

दृष्टान्तः—एक युवती ने अपने स्वप्न में देखा कि वह सोने के जूते पहिने हुई है। मनोविश्लेषण करने पर एक लम्बे विचार को इस छोटे स्वप्न का कारण पाया गया। स्वप्न देखने के पहिले दिन वह युवती अपनी एक सहेली से मिलने गई थी। उसकी सहेली का पति बड़ा धनी था, वह मूल्यवान कपड़े तथा सुनहले जूते पहिने थी। स्वप्न देखने वाली स्त्री का पति सहेली के पति से निर्धन था। स्वप्न देखने वाली स्त्री से सहेली का पति एक बार विवाह करना चाहता था किन्तु उस समय युवती ने उसके प्रस्ताव को स्वीकार नहीं किया था किन्तु अब वह अपनी सहेली के वैभव को देखकर ईर्ष्या करती थी तथा अपने को मन ही मन कोसती थी। किन्तु उसकी नैतिक भावना इस प्रकार की आत्म-भर्त्सना के प्रतिकूल थी क्योंकि ऐसी आत्म-भर्त्सना अपने पति के प्रति असन्तोष प्रदर्शित करती है। इस युवती की आंतरिक मन की इच्छा ने अपने प्रकाशन का मार्ग स्वप्न में पा लिया। जाग्रत अवस्था में उसे सुनहले जूते पहिनना असम्भव था। उसने अपनी स्वप्नावस्था में अपनी सहेली के जूते से भी सुन्दर सुनहले जूते पहिन लिए।

अन्ततोगत्वा हम कह सकते हैं कि स्वप्नों के कारण, हमारे दिन के कार्य शारीरिक अवस्थाएं, चेतत मन की इच्छाएं और अचेतन मन की इच्छाएं ही हैं।

अब तक मैंने स्वप्नों के कारणों पर ही प्रकाश डाला है पर अब उसके निवारण पर भी प्रकाश डालना आवश्यक है क्योंकि रोग का इलाज भी होना ही चाहिए। कार्य के कारण और निवारण दोनों का होना आवश्यक है।

क्या हम स्वप्नों का आना कम कर सकते हैं? वैज्ञानिक दृष्टिकोण से इस पर कम विचार हुआ है। उत्तेजनाओं की कमी से स्वप्नों में कमी हो सकती है। स्वच्छ वातावरण में मलमूत्र का त्याग कर, स्वस्थ विचारों के साथ सोने से अच्छे स्वप्नों का आगमन होगा तथा स्वप्न भी कम आयेंगे। साथ ही मनुष्य को भोग विलास के अन्दर पूर्ण रूप से लिप्त नहीं रहना चाहिए और न पूर्ण रूप से इच्छाओं का दमन ही कर देना चाहिये। अर्थात् मध्यम मार्ग का अनुसरण सुखदायी होगा। विवेकपूर्वक इच्छाओं की तृप्ति से मनुष्य के जीवन की विषमता जाती रहती है। उसके मन की प्रवल उत्तेजनाएं भी शान्त हो जाती हैं। तव यह पाशविक व्यवहार के स्वप्न नहीं देखता। भगवान् श्री कृष्ण का निम्नलिखित उपदेश इस सम्बन्ध में उल्लेखनीय है—

युक्ताहार विहारस्य, मुक्तचेष्टस्य कर्मसु।
युक्तस्वप्नाववोधस्य योगो भवति दुःखहा॥

गीता—अध्याय ६ श्लोक १७

अर्थ—यह दुःखों का नाश करने वाला योग तो यथायोग्य आहार और विहार करने वाले का तथा कर्मों में यथायोग्य चेष्टा करने वाले का और यथायोग्य शयन करने तथा जागने वाले का ही सिद्ध होता है।

स्वप्नों का निरोध पूर्णरूप से करना मुश्किल सा जान पड़ता है पर कुछ स्वप्नों का निरोध आवश्यक भी है। यदि दुःखदायी स्वप्नों का निरोध न किया जायेगा तो उससे मनुष्य के स्वास्थ्य का तथा मानसिक ह्रास होगा। अतएव इस प्रकार के स्वप्नों का निरोध आवश्यक है।

कभी कभी मनुष्य में दिवा-स्वप्न का विकार (Phantasy) उत्पन्न हो जाया करता है। यह विकार अत्यधिक दुःखदायी है। इससे मनुष्य की मानसिक तथा शारीरिक दोनों दशायें खराब होती हैं। व्यक्ति की जो इच्छायें वास्तविक जीवन में पूरी नहीं होतीं उन इच्छाओं को कल्पना में पूरी करना स्वाभाविक है। स्वप्नों में कहानी किस्सा पढ़कर अथवा सुनकर, निम्न स्तर के सिनेमा आदि देखकर सभी व्यक्ति कल्पना लोक में विचरण कर वस्तु जगत के निराशाओं के लिये आंशिक रूप से क्षति-पूर्ति (Compensation) कर लेते हैं। यह कोई रोग नहीं है तथा कुछ सीमा तक अपूर्ण इच्छाओं को चरितार्थ करने का उपयोगी साधन है।

किन्तु यदि यह आदत अपनी सीमा से बाहर चली जाती है तथा कल्पना लोक में विचरण वास्तविक जीवन के कार्यों में बाधक होने लगता है, तो यह मन की विकृत अवस्था है। कुछ मानसिक रोगी ऐसे होते हैं कि कल्पना के जगत में इतना डूब जाते हैं कि वास्तविक जगत से उनका संबंध टूट जाता है। पागलों के रखने के स्थान में ऐसे व्यक्ति अन्य व्यक्तियों से अलग चुपचाप बैठे पाये जाते हैं। यदि उनसे कोई प्रश्न किया जाता है तो या तो उत्तर नहीं देते या ऐसे शब्दों में उत्तर देते हैं जिसका अर्थ बोधगम्य नहीं होता। प्रायः ऐसे व्यक्ति अपने को बहुत प्रतिष्ठित तथा सम्मानित व्यक्ति मान लिया करते हैं। जैसे राजा, आदि। ऐसे व्यक्तियों के विचारों तथा उनके व्यवहारिक कार्यों में कोई सामंजस्य नहीं रहता, जो व्यक्ति कल्पना में अपने को राजा समझता है वही दूसरों से कुछ पैसे अथवा तम्बाकू मांगने लगता है। जो स्त्री अपने को रानी समझती है वही झाडू भी लगाती है। इसका कारण यह है कि उनके व्यक्तित्व में विच्छेद हो गया है।

यह तो सर्व विदित है कि स्वप्न हमारे अचेतन मन का कार्य है। अचेतन मन के कार्यों पर हमारा कोई नियन्त्रण नहीं होता। हम इच्छानुसार स्वप्न नहीं देख सकते हैं। हमारी जाग्रत अवस्था का अनुभव तथा स्वप्नावस्था का अनुभव दोनों भिन्न होते हैं।

कुछ मनोवैज्ञानिकों का कथन है कि स्वप्नों का निरोध किया जा सकता है। जिस प्रकार हम अभ्यास के द्वारा जाग्रत अवस्था के विचारों का निरोध करते हैं उसी तरह हम अभ्यास के द्वारा स्वप्नों का भी निरोध कर सकते हैं। यह कार्य सम्भव है। मानसिक शुद्धि और अभ्यास के परिणाम स्वरूप विचारों पर नियन्त्रण अथवा उनका निरोध सम्भव होता है। इसी तरह से स्वप्न का निरोध आत्मनिर्देश के द्वारा भी किया जा सकता है। यदि हम अपनी आँख को यह कह कर सोएँ की फलां समय पर खुल जाना तो उस समय पर हम स्वयम् जाग जाते हैं। आखिर क्यों ? यह कार्य इस कारण सफल हो सकता है जब हमारा संकल्प दृढ होगा अतएव हमारा संकल्प दृढ होना चाहिए। जिस तरह निर्देश के द्वारा निश्चित समय पर जागा जा सकता है उसी तरह स्वप्नों को भी रोका जा सकता है।

कितने लोग तो काम वासना सम्बन्धी स्वप्नों में काम क्रीड़ा करने के पूर्व ही जाग जाते हैं। यह कार्य अभ्यास द्वारा ही सम्भव है।

किन्तु स्वप्नों के इस प्रकार के निरोध से स्वप्नों का कारण नष्ट नहीं होता। कारण के रहते हुए स्वप्न का होना मानसिक स्वास्थ्य के लिए लाभकर है। यह तो मैं कह ही चुका हूँ कि स्वप्नों का कारण प्रबल मानसिक उत्तेजना ही होती है। हम इन प्रबल उत्तेजनाओं का दमन जाग्रत अवस्था में करते हैं और वही स्वप्नों के रूप में प्रकाशित होती हैं। यदि, आत्मनिर्देश के द्वारा हम स्वप्नों के निरोध में सफल हो जायँ तो सम्भव है कि हम 'निद्रा' का उपभोग न कर सकें।

प्राय: अनेक लोगों के मुखारबिन्दों से यह शब्द प्रस्फुटित होते हैं कि हमें स्वप्न नहीं होते। यह कहना भूल है ऐसा कहने वाले व्यक्ति स्वप्नों को देखते अवश्य हैं पर जागते ही स्वप्न उनके स्मृति पटल से हिरन हो जाते हैं।

स्वप्नों में परिवर्तन आन्तरिक भावनाओं के परिवर्तन के द्वारा ही हो सकता है। बहुत से दु:खद स्वप्नों को हम मैत्री भावना के द्वारा नष्ट कर सकते है। बौद्धों के धर्मग्रन्थों में मैत्री भावना की बड़ी महिमा बताई गई है। मिलिन्द राजा के प्रश्न (मलिन्दपन्हा) नामक पुस्तक में भी मैत्री भावना के अभ्यास के ग्यारह लाभ बताये हैं। उनमें एक लाभ अभद्र स्वप्न का न आना भी बताया गया है। मैत्री भावना का अभ्यास सब प्राणियों के प्रति सद्भावना का अभ्यास है। यही हम दिन भर 'सब प्राणियों के प्रति सद्भावना' का अभ्यास करें तो दु:खदायी स्वप्नों का अनुभव बन्द हो सकता है।

ये तो उपरोक्त माध्यम हैं जिनके द्वारा स्वप्नों का निरोध किया जा सकता है। चेतन और अचेतन मन का बड़ा घनिष्ट सम्बन्ध है। अचेतन मन मुख्य कार्यकर्ता है। इसका विस्तृत क्षेत्र है अचेतन मन की भावना स्वप्न का कारण है। इसी के द्वारा अचेतन मन की भावना का सुधार हो सकता है। जैसी भावन रहती है वैसे ही स्वप्न आते हैं। इसी से गोस्वामी तुलसीदास ने कहा है कि—

जाकी रही भावना जैसी हरि मूरत देखहीं तिन तैसी।

यह कथन जिस तरह हरि मूरत के प्रति भावना के दृष्टिकोण पर प्रकाश डालता है उसी तरह से स्वप्नों के पक्ष पर भी प्रकाश डालता है।

यह तो है भावना की महत्ता। भावना का निर्धारण भी एक सरल कार्य नहीं इसके लिए भी अभ्यास की ही आवश्यकता होती है।

स्वप्निल (सुर्रियलिस्ट) चित्रकला का मूलाधार

—रामचन्द्र शुक्ल—

बीसवीं शताब्दि में चित्रकला ने बहुत से नये रूप बदले हैं। स्वप्निल चित्रकला [सुर्रियलिज़्म] उनमें सबसे प्रभावशाली, विश्व-व्यापी तथा स्थाई रूप है। इसमें तथा यथार्थ-वादी कला [रियलिस्टिक आर्ट] में केवल एक ही अन्तर है—वह यह कि यथार्थवादी चित्रकला में चित्रित होने वाले रूप विवेक [रीज़न] के आधार पर संयोजित होते हैं पर स्वप्निल कला में रूप यथार्थ होते हुये भी विवेक-हीन ढंग से संयोजित होते हैं। अर्थात् रूप स्वाभाविक होते हुये भी अटपटे ढंग से संयोजित होते हैं। उदाहरणार्थ स्वप्निल चित्र में मछली पानी के बजाय आकाश में तैरती दिखाई जा सकती है, आदमी नंगे पाँव पानी पर चलते दिखाया जा सकता है या बकरी शेर को खाती हुई चित्रित की जा सकती है अर्थात् असंभव भी संभव रूप में चित्रित किया जा सकता है। वैसे जो भी रूप स्वप्निल चित्र में चित्रित किये जाते हैं वे अपने स्वाभाविक रूप में ही रहते हैं और सरलता से पहिचाने जा सकते हैं। केवल एक ही बात की पूर्ण स्वतंत्रता है—असंभव बातों को भी चित्रकार चित्रित कर सकता है या कहिये असंभव को ही चित्रित करता है। यह बात बिलकुल वैसी ही है जैसे स्वप्न में असंभव बातें भी संभव होती दिखाई पड़ती हैं।

निरर्थक तथा असंभव का चित्रण

स्वप्निल चित्र बनाते समय चित्रकार अपनी विवेक बुद्धि को ताक पर रख देता है और उसकी मानसिक अवस्था स्वप्न देखने की भांति मुक्त होती है। वह जागते हुये भी स्वप्न की अवस्था प्राप्त करता है और पूरी स्वतंत्रता के साथ अपने मानस पटल पर चल-चित्रों की भांति अंकित होते चित्रों को अति शीघ्रता के साथ अंकित करता जाता है उसका हाथ वही करता है जो उसका मस्तिष्क बोलता है बिलकुल वैसे ही जैसे टाइपिस्ट। टाइपिस्ट का कार्य केवल यही होता है कि बोलने वाला जो भी शब्द उच्चारित करे उसे लिपिबद्ध करता जाय। बोलने वाला क्या बोलता है—संभव या असंभव बोलता है—इससे टाइपिस्ट से कोई मतलब नहीं। बिलकुल ऐसे ही स्वप्निल चित्रकार की तूलिका संभव असंभव, संयत असंयत का बिना ख्याल किये जो कुछ भी मस्तिष्क कहता है चित्रांकित करती जाती है। पर यह बोलने वाला मस्तिष्क चेतन न होकर अर्ध-चेतन या अचेतन मस्तिष्क ही होता है। मस्तिष्क की बिलकुल वही हालत होती है जैसे हिप्नटाइज्ड व्यक्ति की। वह स्वयं नहीं जानता वह क्या बोल रहा है। हिप्नाटिक असर हट जाने के बाद उससे पूछा जाय तो वह बिलकुल नहीं बता पाता कि जो कुछ उसने क्षण भर पहले कहा था क्या कहा था। इसी प्रकार चित्र बन जाने के बाद स्वप्निल चित्रकार नहीं बता सकता कि जो कुछ असंभव या असंयत भाव चित्रकार ने व्यक्त किये हैं क्यों किये हैं।

साधारण दृष्टि से यह चित्र निरर्थक लगते है बिलकुल वैसे ही जैसे स्वप्न, पर स्वप्न भी महत्वपूर्ण होते हैं उनका भी अर्थ होता है—यह बात आज निर्विवाद है, जब कि


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मनोविज्ञान का इतना प्रादुर्भाव सभ्य समाज में हो गया है। स्वप्निल चित्रों में भी अर्थ होता है वैसे ही जैसे स्वप्न में और मनोवैज्ञानिक आधारों पर ही इनका भी अर्थ समझा जा सकता है। मनोवैज्ञानिक ढंग से समझने का प्रचलन अभी सर्वग्राह्य नहीं है पर धीरे धीरे प्रचलित होता जा रहा है। इसलिये आज स्वप्निल चित्रकला को निरर्थक भले कह लिया जाय पर आगे मनोविज्ञान के और प्रचार होने के बाद ऐसा कहना कठिन होगा।

प्रश्न उठता है इस प्रकार के निरर्थक स्वप्निल चित्रों को आज का समाज कैसे ग्रहण करे। इसके उत्तर में कहा जा सकता है कि इसे वही स्थान या महत्व मिलना चाहिये जो व्यक्ति स्वप्नों को देता है। स्वप्न का मूल अर्थ चाहे समझ में न आये पर वह होते बड़े रोचक हैं। उनकी रोचकता में दो मत नहीं हो सकते। इसी प्रकार स्वप्निल चित्र में भी रोचकता रहती है और उसका आनन्द उन्हें देखकर लिया जा सकता है।

प्राचीन भारतीय चित्रकला में असंभव का चित्रण

भारतीय चित्रकला में स्वप्निल चित्रकला कोई नवीन चीज नहीं है। भारतीय चित्रकला आरम्भ से ही कल्पना प्रधान रही है। सारी प्राचीन चित्रकला का विकास काल्पनिक तथा आदर्शवादी आधार पर हुआ है, फिर भी, आधुनिक स्वप्निल चित्रकला की मुख्य बात असंभव बातों को चित्रित करना भारतीय चित्रकला में बहुतायत से पाया जाता है खासकर धार्मिक पौराणिक चित्रों में, उदाहरणार्थ देवी देवताओं के चित्रों को लीजिये—ब्रह्मा के तीन मुख, विष्णु के चार हाथ, फिर विष्णु का नाग पर लेटना, नाभी से ब्रह्मा की उत्पत्ति, काली का मुण्डमाल पहिनना, बालि सुग्रीव, हनुमान, नरसिंह, कर्तिकेय, दुर्गा, सरस्वती इत्यादि तमाम ऐसे चित्र बनाने की परिपाटी रही है जिसमें असंभव बातों का चित्रांकन मिलता है और तारीफ की बात तो यह है कि यहां साधारण से साधारण व्यक्ति भी इन विचित्र रूपों का रसास्वादन करता रहा है। कभी भी प्रश्न नहीं किया कि यह असंभव या निरर्थक रूप कैसा। अन्तर इतना है कि इन पौराणिक स्वरूपों की एक परम्परा सी चली आ रही है।

आधुनिक चित्रों में इस प्रकार की असंभव तथा असम्बद्ध बातों को चित्रित देखकर उसे लोग निरर्थक कहते हैं, और कहते हैं यह अस्वाभाविकता क्यों। इसका मुख्य कारण यह है कि आधुनिक कलाकार पौराणिक आधार पर परम्परागत रूप से चित्र न बनाकर नयी कल्पना सामने रखना चाहते हैं और लोग उसे अपनी परम्परावादी वृत्ति के कारण जल्दी अपनाने में समर्थ नहीं होते, अन्यथा स्वप्निल चित्रकला भारतीय चित्रकला के लिये कोई अटपटी बात नहीं।

आधुनिक भारतीय चित्रकारों में नवीन रूप में स्वप्निल चित्र सबसे पहिले स्वर्गीय गगनेन्द्र नाथ टैगोर के एक दो चित्रों में देखने को मिलता है। कुछ ऐसे चित्र स्व० अवनीन्द्र नाथ टैगौर तथा स्व० रवीन्द्रनाथ टैगोर ने भी बनाये हैं। पर स्वप्निल चित्रकला का अति प्रभावशाली तथा परिपक्व रूप आधुनिक नये चित्रकारों में ही देखने को मिलता है। इस शैली में प्रो० रवीन्द्रनाथ देव, प्रो० रामचन्द्र शुक्ल, श्री कल्याण सेन इत्यादि के चित्र अत्यन्त प्रभावशाली हैं।

पाश्चात्य चित्रकला में सुर्रियलिज्म

पाश्चात्य चित्रकारों में अरागों ब्रेटन, यलुआर्ड, पैरेत, पिकासो, जान मिरौ, आन्द्रे मैसन, मैक्स अर्न्स्ट, जीन आर्प, सलवाडर डाली तथा टैन्गुये इत्यादि तमाम स्वप्निल चित्रकार विख्यात हैं। सलवाडर डाली स्वप्निल चित्रकला का सबसे प्रतिष्ठित तथा प्रतिनिधि कलाकार माना जाता है।

अकसर स्वप्निल चित्रकला को ही सारे आधुनिक चित्रकला के विकास का मुख्य रूप समझ लिया जाता है वास्तव में यह बात नहीं है। स्वप्निल चित्रकला आधुनिक चित्रकला की एक विशेष शैली मात्र है यद्यपि काफी महत्वपूर्ण है। सारी आधुनिक चित्रकला को स्वप्निल कला समझना बड़ी भारी भूल होगी। स्वप्निल चित्रकला आधुनिक कला की अन्य प्रवृत्तियों से बिलकुल भिन्न है। इसे ही घनत्ववादी कला (क्यूबिज्म) सूक्ष्म-कला (ऐब्सट्रैक्शनिज्म) या अभिव्यंजनावादी कला (एक्स-प्रेश्निज्म) समझना बड़ा ही भ्रामक होगा। स्वप्निल कला के अलावा यही तीन प्रवृत्तियां आधुनिक कला में प्रधान हैं पर तीनों ही स्वप्निल कला से बिलकुल भिन्न हैं। स्वप्निल चित्रकला से तथा घनत्ववादी या सूक्ष्मवादी कला से कोई सम्पर्क नहीं हैं यदि कुछ साम्य है तो अभिव्यंजना-वाद से। अभिव्यंजनावाद में भी कलाकार स्वतंत्र रूप से अपने उद्वेगों तथा संवेगों को व्यक्त करता है और यह स्वतंत्रता स्वप्निल कला को भी प्राप्त है। अन्तर इतना है कि अभिव्यंजनावाद में कलाकार प्रधानता अपने भावों की अभिव्यक्ति को देता है पर स्वप्निल चित्रकला में वह उन भावों की अभिव्यक्ति पर जोर देता है जो साधारण रूप से निरर्थक से लगते हैं और उनका उद्गम सुप्तमन से होता है।

दार्शनिक धरातल

पाश्चात्य चित्रकला में स्वप्निल चित्रकला का प्रादुर्भाव उस समय से आरम्भ होता है जब महायुद्धों की विभीषिका से सारा योरोप त्रस्त हो जाता है। १९१६ में विश्व-व्यापी महायुद्ध के समय कुछ कवियों, चित्रकारों तथा संगीतज्ञों ने जो ज्यूरिच में नजरबन्द थे कई महत्वपूर्ण घोषणा-पत्र "दादा" के नाम से निकाले। बर्लिन के दादा ग्रुप के कलाकार जार्ज ग्राज ने घोषणा की कि, "हमने सभी चीजों को त्याग दिया है, हमारे दृष्टि में कोई भी वस्तु पवित्र नहीं है हम इन सभी को घृणा करते हैं: और यही "दादा" हैं। न तो यह रहस्यवाद है न साम्यवाद और न आतंकवाद। इन सभी वादों का कोई कार्यक्रम है। पर हम सब केवल शून्यवादी। (निहीलिस्ट) हैं हमारा प्रतीक है शून्य (नल ऐण्ड वायड, व वैकुअम) छेद।" इसी प्रकार पेरिस में भी नवयुवक कवियों तथा कलाकारों ने घोषणापत्र निकाले और अपने को "आधुनिक वादी" कहकर घोषित किया। यह सब भी परम्परा के पूरे विरोधी थे और अपना लक्ष्य केवल आधुनिकता बताते थे। इस ग्रुप के प्रमुख प्रणेता थे गिलाम अपोलिनेयर जिन्होंने १९१७ में सर्वप्रथम "सुर्रियलिज्म" नाम का शब्द गढ़ा। दादाइज्म के मुख्य प्रणेता थे "त्रिस्तां" जारा। जब वो बाद में "आन्द्रब्रेटन" से अलग हो गये तो यह सुर्रियलिज्म के मुख्य प्रणेता बने। दादाइज्म युद्ध के खिलाफ एक आन्दोलन या बगावत थी। इसने निरर्थकता को एक शस्त्र माना युद्ध के उन नाना रूपों के खिलाफ

जिसके द्वारा युद्ध को सार्थक ठहराया जाता था क्योंकि दादावादी युद्ध को ही पूर्ण रूपेण निरर्थक समझते थे। इसने उनसभी मानदंडों को रद्द करने की घोषणा की जिनको उस समय तक पवित्र समझा जाता था और जिसका परिणाम था महायुद्ध जैसे राज्य भक्ति, इज्जत, धर्म, महत्वाकांक्षा, व्यक्ति-पूजा और तमाम इस प्रकार के आदर्श : सभी बनावटी देवताओं के नकली चेहरे उतार फेंके। इसमें मूलतः दादावाद तथा सुरियलिज्म एक से थे। उस समय के शीर्षस्थ सूरियलिस्ट कलाकार अरागों, ब्रेटन, इलुआर्ड तथा पेरैंट फ्रान्सीसी दादावादी ग्रुप के जन्मदाता थे।

इस प्रकार सूरियलिज्म चित्रकला की एक शैली मात्र नहीं थी बल्कि एक नया जीवन दर्शन था जिसमें पागलपन का भी एक अर्थ था। एक कहावत है "दुनिया कहती मुझको पागल, मैं कहता दुनिया है पागल", इसमें भी वही अर्थ है। जब सारी दुनिया विक्षिप्त हो जाती है तो वही उस समय का आदर्श बन जाता है और ऐसे समय यदि कोई एक व्यक्ति सही बात कहे तो लोग उसे ही पागल कहते हैं यद्यपि वह पागल नहीं दुनिया पागल होती है। सारा योरोप युद्ध को आदर्श मानने लगा था ऐसे समय यदि किसी बात में अर्थ हो सकता था तो इसी में कि सारे ऐसे आदर्शों को चकनाचूर कर दिया जाय। यही सूरियलिस्ट कलाकारों ने किया। सारी मान्यताओं, परम्पराओं, मूल्यों तथा आदर्शों का जबाब इन कलाकारों ने निरर्थक कला के रूप में दिया जो इन निरर्थक मूल्यों के सामने बड़ा अर्थपूर्ण सिद्ध हुआ। इन झूठे मूल्यों को निरर्थक रूप से देखना ही उस समय सार्थक था। इसी आधार पर सारी फ्रान्सीसी कला एक नया रूप ग्रहण करने लगी जो सूरियलिस्ट चित्रकला के रूप में सामने आई। १९१९ से १९३९ तक सूरियलिस्ट चित्रकला निरन्तर प्रगति करती गई। इसका खूब विरोध भी हुआ। कितनों को सजा हुई, राज्य छोड़ना पड़ा। फिर भी १९३८ में १४ देशों के कलाकारों ने सूरियलिस्ट प्रदर्शनी में भाग लिया।

मनोवैज्ञानिक दृष्टिकोण

१९२४ में आन्द्र ब्रेटन ने सूरियलिज्म का रूप निर्धारित किया और कहा, सुरियलिज्म केवल मनोवैज्ञानिक सहज स्वभाव है [आटोमैटिज्म] है जिसके द्वारा सोचने की क्रिया को दिग्दर्शित किया जाता है, जिसमें विवेक की कोई सत्ता नहीं रहती और जो सारी कलात्मक तथा चारित्रिक बन्धनों से मुक्त है। कला से तर्क [लाजिक] को अलग कर दिया जाता है। वह क्रिया ही उलट दी जाती है जिससे सार्वभौमिक सत्य को प्राप्त किया जाता था। अर्थात् तर्क [लाजिक] से सत्य को न समझ कर निरर्थकता में सत्य को खोजना।

सही माने में सुरियलिज्म का मुख्य कार्य है सुप्त मन की खोज। यही कारण है कि सारे सुरियलिस्ट कलाकारों ने बार बार फ्रायड की शरण ली हैं। सुरियलिस्ट भी एक प्रकार से स्वप्न को अनुभूति का आगार मानता है। जागृत मन से ज्यादा तथ्य सुप्त मन में हुआ करता है यह आधुनिक मनोवैज्ञानिक भी मानते हैं और सुरियलिस्ट कलाकार भी। यही कारण हैं अधिकतर सुरियलिस्ट चित्र स्वप्न की भाँति दृश्य उपस्थित करते हैं जो वैसे ही रोचक तथा सार्थक हैं जैसे स्वप्न।

सूरियलिज्म शुरू से अन्त तक यथार्थ रूपों में अभिव्यक्त होता है। यह चित्रकार बड़ी सच्चाई के साथ, अनुकरण के आधार पर, विषय के अनुरूप अपने चित्र बनाते हैं। चित्र में चित्रित सभी वस्तुयें पहिचानी जा सकती हैं, सभी का नाम बताया जा सकता है, फिर भी यह भलीभाँति जानी बूझी वस्तुयें बड़े ही अजीब [फेन्टास्टिक] रूप में सामने लायी जाती हैं। इनमें उपस्थित वस्तुयें इस प्रकार एक दूसरे से संबंध ग्रहण करती हैं जैसा पहले कभी जागृत अवस्था में यथार्थ रूप में नहीं देखा गया है। यही सुरियलिज्म का वह रूप है जिसके कारण इसे सुपर रियलिज्म कहा जाता है। इस प्रकार कलाकार अपने मन की उस गहराई का परिचय देता है जिसे और किसी प्रकार से खोज पाना शायद कठिन होता। यह तभी हो सकता है अब कलाकर उन्मुक्त रूप से अपने सुप्त मन की आज्ञा के आधार पर चित्र बनाता चला जाय। "सुरियलिस्ट चित्रकार गुरूत्वाकर्षण की परिधि से बाहर निकाल कर वस्तुओं को उन परिस्थितियाँ में भी संयोजित होने देता है जैसा कि साधारणतया संभव नहीं है।" इस प्रकार एक वस्तु दूसरे वस्तु में मिलकर एक ऐसा रूप उपस्थित करती हैं जो निरन्तर बदलता रहता है।

ऐसे रूपों को ऐसी विचित्र परिस्थितियों में देखकर यदि दर्शक कहता है यह चित्र समझ में नहीं आते तो वह उचित ही कहता है क्यों कि सुरियलिस्टिक कला का आधार ही निरर्थक रूप बनाना है। इस प्रकार की निरर्थक कला का आनन्द वह तभी ले सकता है जब सारी प्राचीन मान्यताओं आदर्शों, मूल्यों को ताक पर रख दें या उन्हें निरर्थक समझें क्योंकि सुरियलिस्ट कलाकारों के विचार से आज वे खोखले पड़ गये हैं।

सुर्रियलिस्ट कलाकार सलवाडर डाली का चित्र 'स्मृति की धुन' (पर्सिस्टेन्स आफ मेमोरी)

आधुनिक चित्रकला में बड़ी अजीव प्रवृत्तियां पदार्पण करती दिखाई देती हैं और उनमें भी सबसे विकट स्वप्निल चित्रकला [सुरियलिस्ट आर्ट] है। स्वप्निल चित्रों में रूप बनाने की प्रक्रिया यथार्थवादी है। चित्र में बने सभी रूप पहिचाने जा सकते हैं पर इनका संयोजन ही बड़ा विलक्षण होता है और यही स्वप्निल कला की मुख्य विशेषता है जिससे वह पहिचानी जाती है। स्वप्निल चित्र में जाने पहिचाने विविध रूपों को एक साथ इस प्रकार संयोजित किया जाता है कि वे अपना अपना मान्य अर्थ ही खो बैठते हैं और सारा चित्र निरर्थक तथा अस्वाभाविक सा लगता है।

उदाहरण

१—सलवाडर डाली का चित्र—पर्सिस्टेन्स आफ मेमोरी 'स्मृति की धुन' ही लीजिये—चित्र संयोजन की विचित्रता :—

—समुद्र के किनारे सीमेन्ट के चौतरे,
—चौतरे पर पेड़ का ठूंठ,
—पेड़ की एक ही डाल,
—डाल पर कपड़े की लत्ते सी घड़ी,



चित्रकार—गगनेन्द्र नाथ टैगोर

'मृग तृष्णा'

(स्वप्निल चित्र शैली)

—दूसरी घड़ी मोम की तरह पिघली हुई,
—पास में घड़ी का ढकन-कल पुर्जा
की जगह कीड़े मकोड़े से भरा हुआ,
—ज़मीन पर एक मानवीय हाथ जो
हाथ भी लगता है और मुखाकृति भी,
—मुखाकृति के ऊपर एक अन्य घड़ी।

महायुद्ध का प्रभाव

चित्रकला की इस नई प्रवृत्ति का आरम्भ आधुनिक काल में सबसे प्रथम १९१६ में ज्यूरिच में हुआ। यह प्रथम विश्वयुद्ध का काल था। सही माने में स्वप्निल कला इन महायुद्धों का परिणाम स्वरूप थी। उस समय संसार में बड़े बड़े नेता तथा विद्वत्‌जन भी युद्ध को अनिवार्य तथा प्रगतिशील मानने लगे थे। एक सत्ता दूसरी सत्ता को राख कर देना उचित समझने लगी थी। जीवन का कोई मूल्य ही नहीं था। एक बम के गोले से पलभर में सैकड़ों हज़ारों घर तबाह कर दिये जाते थे और इसे लोग अपनी जीत तथा प्रगति बताते थे। आधुनिक सभ्यता का आधार ही हो गया महायुद्ध। सही माने में आधुनिक समाज यहीं पर निरर्थकता को सार्थक समझना आरम्भ करता है। निरर्थकता लक्ष्य सा बन गया आधुनिक प्रगति का। इस निरर्थकता का क्या जवाब हो सकता था जहां मनुष्य सारी सभ्यता को नष्ट करना ही सभ्यता की प्रगति मानने लगता है। इससे बढ़कर और निरर्थकता क्या हो सकती है जहाँ मनुष्य अपने को तबाह करना ही सार्थक समझने लगता है?

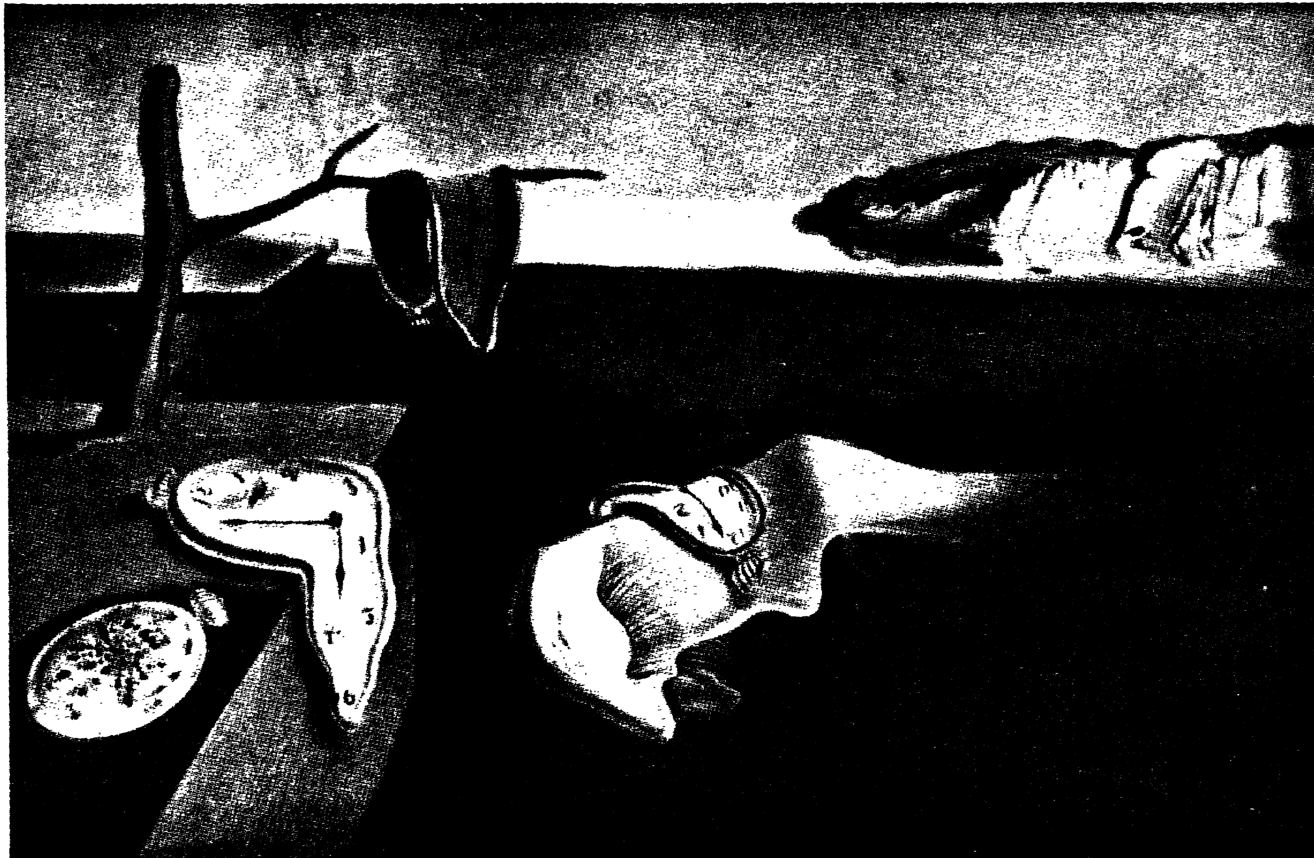
ऐसे समय कलाकार कवि संगीतज्ञ तथा चित्रकार ही ऐसे लोग बच रहते हैं जिन्हें यह निरर्थकता अति तीव्र रूप से प्रभावित करती है, व्यथित करती है, चोट पहुंचाती है। योरोप का कलाकार बेचैन हो उठता है इसका विरोध करने के लिये और उसका विरोध सुर्रियलिस्ट आर्ट के रूप में सामने आता है।

प्रश्न उठता है सूर्रियलिस्ट कला स्वयं निरर्थक है वह इस निरर्थकता का कैसे विरोध कर सकती है।

जब मनुष्य निरर्थकता को सार्थक समझने लग जाता है तब सार्थक बातों से उसे समझना कठिन हो जाता है। वह तो निरर्थक भाषा का आदी हो चुकता है और उसे निरर्थक भाषा में ही समझाया जा सकता है और यही सुर्रियलिस्ट कलाकारों ने करना आरम्भ किया। सारी अबतक की मान्य धारणाओं, विचारों, परम्पराओं, आदर्शों तथा रूढ़ियों को उन्होंने तिलांजली देदी और इनके खोखलेपन को दिग्दर्शित करना इन कलाकारों ने अपना लक्ष्य बनाया जो सुर्रियलिस्ट कला की मुख्य विशेषता है।

सलवाडर डाली का चित्र [पर्सिस्टेन्स आफ मेमोरी] को ही लिजिये।

चित्र का शीर्षक है, "स्मृति की धुन।" (लेख के साथ दिये गये चित्र में देखिये।)



'स्मृति की धुन' स्पैनिश चित्रकार—**सलवाडर डाली**

(सुर्रियलिस्ट चित्रशैली)

जैसे गुड़ से चींटों का चिपकना। जानवरों की तरह खाना और जिन्दा रहना। चित्र में सारी अभिव्यंजना आधुनिक जीवन में व्याप्त निरर्थक मूल्यों का उपहास मात्र है। आत्मज्ञान का एक छोटा सा पाठ है।

आत्म-ज्ञान

सुर्रियलिस्ट कला का कार्य ही है आधुनिक निरर्थकता पर प्रहार करना (व्यंग) है खासकर महायुद्ध की निरर्थकता पर। योरोप में इस प्रकार की कला का प्रादुर्भाव बीसवीं शताब्दि में हुआ पर भारतवर्ष बड़ा प्राचीन देश है। महायुद्ध यहां भी अनेक हुए हैं और महाभारत उसमें सबसे प्राचीन तथा महत्वपूर्ण है। इसी का परिणाम स्वरूप है गीता का उपदेश जो आत्म-ज्ञान का महाकोष है पर उसकी भाषा भी आज के मानव पर प्रभाव डालने में असमर्थ सी लगती है और इसीलिये भारत में भी स्वप्निल कला का नया रूप नई भाषा में सामने है। यद्यपि प्राचीन पौराणिक साहित्य तथा कला में इसकी कमी नहीं है। बात पुरानी है उसे कहने का तरीका नया है जो आज के मानव को प्रभावित करने में अधिक समर्थ है।

साधारणीकरण पर संस्कृत और हिन्दी के आचार्य

शंकर देव अवतरे

साधारणीकरण का सम्बन्ध साहित्य के क्षेत्र में रस-प्रक्रिया से है। "विभावानुभाव-व्यभिचारिसंयोगाद्रसनिष्पत्तिः" यह भरत मुनि का सूत्र है जो उक्त प्रक्रिया में सर्व-मान्य है। भट्टलोल्लट, शंकुक, भट्टनायक और अभिनवगुप्त ये चार आचार्य इस सूत्र के मुख्य व्याख्यान-प्रवर्तक हैं। साधारणीकरण भट्टनायक और अभिनव गुप्त के व्याख्यानों से सम्बन्ध रखता है। क्रमशः इन दोनों के अनुसार साधारणीकरण का रूप स्थिर करना है।

भट्ट नायक

काव्यप्रकाश में मम्मटाचार्य ने भट्टनायक के व्याख्यान का जो संक्षिप्त सार प्रस्तुत किया है उसमें साधारणीकरण का स्वरूप उपस्थित करने वाले ये शब्द हैं :—

"विभावादि-साधारणीकरणात्मना भावकत्वव्यापारेण भाव्यमानः स्थायी" वामनाचार्य ने इस पर टिप्पणी देते हुए लिखा है :—

"अन्य—सम्बन्धित्वेनासाधारणस्य विभावादेः स्थायिनश्च व्यक्तिविशेषांशपरिहारेणोपस्थापनं साधारणीकरणम्, तदात्मना"।

अर्थात् साधारणीकरण भट्टनायक के अनुसार भावकत्व नामक व्यापार में अन्तर्गभित है या भावकत्व व्यापार का स्वरूपाधायक है। वे कहते हैं कि भावकत्व व्यापार से स्थायी का साधारणीकरण (भाव्यमानः—साधारणीक्रियमाणः) होता है और भावकत्व व्यापार का स्वरूप उनके अनुसार है–विभाव, अनुभाव और संचारी का साधारणीकरणात्मक (विभावादि-साधारणीकरणात्मना भावकत्वव्यापारेण)।

तात्पर्य यह है कि भट्टनायक के अनुसार साधारणीकरण विभाव, अनुभाव, संचारी और स्थायी इन चारों का होता है। अन्तर केवल इतना है कि विभाव, अनुभाव और संचारी का साधारणीकरण पहले होता है और तत्फलस्वरूप स्थायीभाव का साधारणीकरण भी हो जाता है।

अभिनव गुप्त

अभिनव गुप्त ने भट्टनायक के साधारणीकरण को स्वरूपतः तो नहीं बदला किन्तु प्रक्रिया में थोड़ा भेद रखा है। इनके अनुसार भी सामाजिक को विभावादि की प्रतीति साधारणतया होती है अर्थात् न तो वह यही समझता है कि इनके साथ मेरा या किसी का सम्बन्ध है और न यही समझता है कि सम्बन्ध नहीं है। यह विभावादि का साधारणीकरण हुआ। तदनन्तर सामाजिक के हृदय का स्थायी भाव भी वैयक्तिक सीमा में न रह कर असीम हो जाता है अर्थात् तब सामाजिक के रत्यादि भाव व्यक्तिगत नहीं रहते इसीलिये उनमें सांसारिक लज्जा संकोच जैसी वृत्तियां नहीं रहतीं। उदाहरणार्थ श्रृंगार-रस की

प्रक्रिया में कवि की शकुन्तला किसी व्यक्तिविशेष से सम्बन्ध न रख कर स्त्री-सामान्य के रूप में उपस्थित होती है—यह विभावादि के साधारणीकरण की शुरुआत है। और स्त्री-सामान्य के रूप में उपस्थित शकुन्तला के कारण यदि सामाजिक को रति (प्रेम) उत्पन्न होती है तो यह भी सर्वसाधारण जैसी होगी। लज्जा, संकोच, आशंका जैसे लौकिक बन्धन यहां नहीं रहते। यही स्थायी भाव का साधारणीकरण है। जब कोई भाव व्यक्तिगत नहीं रह जाता उस समय वह व्यक्तिगत सीमाओं से बाहर होने के कारण असीम और सात्विक रूप ग्रहण करता है और सामाजिक इसी रूप में इसका अनुभव करता है। मानव जीवन को सात्विक बनाना ही तो ब्रह्मास्वादसहोदर रस का स्वयं सिद्ध लक्ष्य है।

इस प्रकार पहले विभावादि का साधारणीकरण और फलतः स्थायीभाव का साधारणीकरण जिस प्रकार भट्टनायक ने माना उसी प्रकार अभिनवगुप्त ने भी माना है। किन्तु भट्टनायक के भावकत्व और भोजकत्व व्यापार अभिनवगुप्त की दृष्टि में अनावश्यक हैं। वस्तुतः ये दोनों व्यापार शब्द के न होकर सामाजिक के हैं और अर्थ की दृष्टि से विभावादि की प्रकृति में निष्ठ है। अर्थात् सामाजिक शकुन्तला रूप विभाव की भावना करता है इसलिये भावकत्व का अर्थ स्वयं ही उसमें मौजूद है। इसी तरह सामाजिक का रति भाव जब अलौकिक आनन्द के रूप में बदल गया तो प्रकृत्या ही वह सामाजिक के लिये उपभोग स्वरूप है। एतदर्थ भोजकत्व व्यापार मानना बेकार है। इस मान्यता का अनुवर्ती परिणाम यह हुआ कि जहां भट्टनायक का साधारणीकरण सामाजिक के भावकत्व व्यापार के भीतर पड़ता था वहां अभिनव गुप्त के अनुसार विभावादि के स्वरूप में प्रतिष्ठित हो गया। और क्योंकि विभावादि का मतलब कवि-कर्म या शब्द-व्यापार है इसलिये शब्द-व्यापार या व्यंजनाशक्ति की सीमा में साधारणीकरण चला गया। यही भट्टनायक की अपेक्षा अभिनव गुप्त के साधारणीकरण की प्रक्रिया में वैलक्षण्य है।

कविराज विश्वनाथ

कविराज विश्वनाथ ने अपने साहित्यदर्पण में अभिनवगुप्त के साधारणीकरण की प्रक्रिया ही अपनाई है किन्तु अधिक स्पष्टता के साथ। पहले विभावादि के और पश्चात् स्थायी भाव के साधारणीकरण की दोनों कोटियां उसे मान्य हैं। विभावादि के साधारणीकरण के सम्बन्ध में उसकी यह कारिका है :—

परस्य न परस्येति ममेति न ममेति च
तदास्वादे विभावादेः परिच्छेदो न विद्यते

इस प्रकार मेरे और मेरे के अभाव से विलक्षण होने के कारण विभावादि इनके यहां अलौकिक सिद्ध किये गए हैं जो रस को भी अलौकिक सिद्ध करने में अन्यतम प्रमाण हैं।

यों 'विभावादि' में आदि शब्द से अनुभाव का भी ग्रहण है किन्तु स्पष्टीकरणार्थ अनुभाव के साधारणीकरण के लिये अलग से भी इन्होंने कारिकायें दी हैं जिसका दूसरे शब्दों में मतलब है कि आश्रय का भी साधारणीकरण होता है (अनुभाव आश्रय की चेष्टाओं को जो कहते हैं)। कारिकायें ये हैं :—

व्यापारोस्ति विभावादेर्नाम्ना साधारणीकृतिः

तत्प्रभावेण यस्यासन् पाथोधिप्लवनादयः। प्रमाता तदभेदेन स्वात्मानं प्रतिपद्यते।
उत्साहादिसमुद्बोधः साधारणयाभिमानतः। नृणामपि समुद्रादिलंघनादौ न दुष्यति॥

यानी वीर रस की प्रक्रिया में समुद्रलंघन करते हुए हनुमान् (आश्रय) के साथ सामाजिक का साधारणीकरण होता है। अन्तर केवल इतना है कि यह अनुभाव का साधारणीकरण तादात्म्यमूलक या अभेदमूलक (तदभेदेन स्वात्मानं प्रतिपद्यते) होता है, विभाव के साधारणीकरण की भाँति विषय-मूलक नहीं।

विभावादि के साधारणकीरण के बाद स्थायी भाव का भी साधारणीकरण हो जाता है :—

'साधारण्येन रत्यादिरपि तद्वत् प्रतीयते'

संस्कृत आचार्यों का निष्कर्ष

ऊपर संस्कृत के तीन आचार्यों की साधारणीकरण-विषयक मान्यताओं का विशकलन किया गया है। यदि हम समष्टि रूप से इन पर विचार करें तो यह निष्कर्ष निकलेगा :—

साधारणीकरण की तीन कोटियाँ हैं। विभाव का साधारणीकरण, अनुभाव का साधारणीकरण और स्थायीभाव का साधारणीकरण। विभाव के दो भेद हैं—आलम्बन विभाव और उद्दीपन विभाव। आलम्बन विभाव का मतलब है जिसके सहारे सामाजिक का स्थायी भाव उद्बुद्ध हो। उद्दीपन विभाव का अर्थ है जिस के कारण सामाजिक का स्थायीभाव (जो पहले उदबुद्ध हो चुका है) उद्दीप्त हो। उद्दीपन विभाव भी दो प्रकार का होता है, आलम्बन-गत (चेष्टायें) और आलम्बन-बहिर्भूत (प्राकृतिक दृश्य आदि)। श्रृंगार रस की प्रक्रिया में यदि शकुन्तला आलम्बन विभाव है तो उस की चेष्टायें और प्राकृतिक सुषमा क्रमशः दोनों प्रकार के उद्दीपन विभाव माने जायेंगे। यों तो इन तीनों ही विभावों का चित्रण कवि इस रूप में करता है कि सामाजिक के रति जैसे स्थामी भाव को ये साधारणतया उद्बुद्ध और उद्दीप्त कर सकें इस लिये तीनों का ही साधारणीकरण विहित है किन्तु फिर भी सारा दारमदार आलम्बन विभाव के साधारणीकरण पर ही है। आलम्बन ही यदि इस रूप में प्रस्तुत न किया जाय कि वह सामाजिक के किसी भाव का साधारणतया उद्बोधन कर सके तो उसकी चेष्टाओं और प्रकृति-सुषमा आदि के साधारणीकरण का कोई मतलब ही न होगा।

अनुभाव के साधारणीकरण का मतलब है आश्रय (भाव की व्यंजना करने वाले पात्र) की उन चेष्टाओं के साधारणीकरण का जो कार्य के रूप में सामने आती हैं। श्रृंगार की प्रक्रिया में हम कह सकते हैं कि यदि शकुन्तला सामाजिक के रति भाव को उद्बुद्ध करती है तो दुष्यन्त अपने कार्यों से उसी भाव की व्यंजना करता है। दुष्यन्त के ये कार्य ही अनुभाव कहलायेंगे। एक ओर तो ये अनुभाव यह प्रकट करेंगे कि दुष्यन्त की शकुन्तला के प्रति रति उत्पन्न हो गई है और दूसरी ओर उसी रूप में सामाजिक की रति की व्यंजना करने के कारण दुष्यन्त और सामाजिक के बीच तादात्म्य की स्थिति उत्पन्न करके साधारण बन जायेंगे। यही अनुभावों का साधारणीकरण है जिसे तादात्म्य-मूलक कहा जाता है।

आलम्बन और आश्रय के सम्बन्ध में एक बात का ध्यान रखना चाहिए कि किसी पात्र-विशेष की दृष्टि से इनका स्वरूप निश्चित नहीं किया जाता। वस्तुतः जब नायक-नायिका दोनों ही एक-दूसरे के प्रति प्रेम प्रकट करते हैं तो आलम्बन और आश्रय का पहिया इतनी तेजी से घूमता है कि इन्हें अलग-अलग कर पाना बहुत कठिन है। शास्त्रीय दृष्टि तो यह है कि साभिप्राय चेष्टायें आश्रय की कसौटी है। यानी नायक-नायिका में से जब जो कोई आपस में किसी को उद्दिष्ट बनाकर चेष्टा करता है उस समय वह आश्रय है। और जिसकी चेष्टा दूसरे को उद्दिष्ट बना कर नहीं की गई वह आलम्बन है। इस प्रकार जोड़े में से जो जिस समय प्रेमी या प्रेमिका (ऐग्रेसिव) होगा या होगी वह उस समय आश्रय और जो जिस समय प्रिय या प्रेयसी (पैस्सिव) होगा या होगी वह उस समय आलम्बन है। लेकिन एक व्यावहारिक दृष्टि और भी है जिससे बहुत हद तक सफाई हो जाती है। सामाजिक चाहे तो इसका निर्णय बड़ी आसानी से कर सकता है। जब दो तरह के पात्र सामने आते हैं तब प्रायः उनमें से एक तो ऐसा होता है जिसके प्रति सामाजिक का आकर्षण या विकर्षण रहता है और दूसरा पात्र ऐसा होता है जिसके द्वारा सामाजिक के उस आकर्षण या विकर्षण को समर्थन प्राप्त होता है। जिसके प्रति सामाजिक का आकर्षण या विकर्षण हो उसे आलम्बन कहते हैं और जिसके द्वारा सामाजिक को समर्थन प्राप्त हो उसे आश्रय। शृंगार जैसे रस की प्रक्रिया में जो नायक या नायिका आलम्बन होगा उसके प्रति सामाजिक का आकर्षण रहता है। किन्तु करुण या रौद्र जैसे रसों की प्रक्रिया में जो आलम्बन (मृत व्यक्ति या खल नायक आदि) होगा उसके प्रति सामाजिक का विकर्षण होता है। रस के क्षेत्र में यह स्थिति अनिवार्य है। इसलिये जिस क्षण जिस पात्र के प्रति सामाजिक का आकर्षण या विकर्षण हो रहा होगा उस क्षण वह पात्र आलम्बन विभाव है और जिस क्षण जिस पात्र के द्वारा सामाजिक के उस आकर्षण या विकर्षण को समर्थन प्राप्त हो रहा होगा उस क्षण वह पात्र आश्रय है। इसी आधार पर आलम्बन और आश्रय की व्यवस्था की जाती है। अन्यथा पात्रों का क्या ठिकाना। एक क्षण में ही शकुन्तला आलम्बन से आश्रय बन सकती है और दुष्यन्त आश्रय से आलम्बन बन सकता है। और आश्रय तो कभी-कभी स्वयं कवि भी बन जाता है। 'आंसू' में प्रसाद जी स्वयं ही सामाजिकों के लिए आश्रय बने हुए हैं जब कि उनका प्रिय आलम्बन विभाव है।

आलम्बन के आकर्षण और विकर्षण वाली बात कुछ और स्पष्ट होनी चाहिए। शृंगार के क्षेत्र में दुष्यन्त और शकुन्तला में से कोई भी आलम्बन आकर्षणात्मक ही है क्योंकि सामाजिक का रतिभाव यहां अनुकूल आलम्बन से उत्पन्न होता है। लेकिन करुण या रौद्र रस के क्षेत्र में आलम्बन कोई मृत व्यक्ति या खल नायक होगा जो कि सामाजिक के लिये अनुकूल न होकर प्रतिकूल है और विजातीय भाव करुणा या क्रोध उत्पन्न करने के कारण विकर्षणात्मक है। तात्पर्य यह है कि आलम्बन विभाव सामाजिकों की वृत्ति के अनुकूल ही नहीं होता, प्रतिकूल भी होता है। किन्तु आश्रय का यह एक वैलक्षण्य और है कि वह आलम्बन की भांति अनुकूल और प्रतिकूल दोनों नहीं होता; वह सदा अनुकूल ही होता है, प्रतिकूल नहीं। आकर्षणात्मक ही होता है विकर्षणात्मक नहीं। आश्रय का स्वरूप ही इस बात पर निर्भर है कि वह सामाजिक की वृत्ति का समर्थन करे। दूसरे शब्दों में

जिसके साथ सामाजिक का तादात्म्य हो वह आश्रय होता है। समर्थन और तादात्म्य प्रतिकूल वस्तु से नहीं हुआ करता। आश्रय की इस परिभाषा को ठीक से हृदयंगम न करने के कारण हिन्दी के कुछ आचार्यों का विवेचन गड़बड़ हो गया है। इसका आगे संकेत करेंगे।

स्थायी भाव का साधारणीकरण स्वात्ममूलक या विषयि-मूलक होता है। यानी आलम्बन और आश्रय का साधारणीकरण होने पर सामाजिक के हृदय का स्थायी भाव भी अपनी व्यक्तिगत सीमा में नहीं रहता और सत्वोद्रेक के कारण असीम होकर ब्रह्मास्वाद-सहोदर रस की दिशा में प्रस्थान करने लगता है। यानी सामाजिक की रति भी व्यक्तिगत न होकर सर्वसाधारण या व्यापक बन जाती है क्योंकि वह उत्पन्न भी तो किसी व्यक्तिगत आलम्बन से न होकर सर्वसाधारण या व्यापक आलम्बन से होती है। संक्षेप में संस्कृताचार्यों के अनुसार आलम्बन का साधारणीकरण विषय-मूलक, आश्रय का साधारणीकरण तादात्म्य-मूलक और स्थायिभाव का साधारणीकरण विषयि-मूलक होता है। इस प्रकार इनके यहां साधारणीकरण की ये तीन कोटियां स्थापित होती हैं।

आचार्य रामचन्द्र शुक्ल

हिन्दी में साधारणीकरण का सबसे प्रथम और प्रामाणिक विवेचन उपस्थित करने वाले शुक्ल जी हैं। इस सम्बन्ध में शुक्ल जी ने संस्कृताचार्यों के साधारणीकरण को ज्यों का त्यों उपस्थित न कर अपनी शब्दावली में संक्षिप्त और संशोधित करके रक्खा है साथ ही एक नई दिशा का संकेत भी किया है। फलत: हम शुक्लजी के विवेचन के दो पक्ष मान सकते हैं। पहला वह जिसमें परम्परया स्वीकृत साधारणीकरण को उन्होंने संक्षेपत: रक्खा है। दूसरा वह जिसमें उन्होंने साधारणीकरण को नई दिशा प्रदान की है। उनके निबन्ध 'साधारणीकरण और व्यक्तिवैचित्र्यवाद' के अनुच्छेद ७ से १० तक का निष्कर्ष हम अपनी शब्दावली में प्रस्तुत कर रहे हैं।

प्राचीन पक्ष :—इसके भीतर शुक्ल जी ने साधारणीकरण को संक्षिप्त और गतिमय रूप प्रदान किया है। स्थायी भाव के साधारणीकरण का तो उन्होंने जिक्र भी नहीं किया जब कि संस्कृत के आचार्यों ने इसे माना था। आश्रय का भी साधारणीकरण मानना उनकी दृष्टि से बेकार है। इसी के अनुसार उन्होंने साधारणीकरण की परिभाषा दी है। वे कहते हैं कि जब किसी भाव का कोई विषय इस रूप में लाया जाय कि वह सबके उसी भाव का उत्पादन कर सके तो यह साधारणीकरण की स्थिति होगी। आलम्बन के साधारणीकरण का अर्थ हुआ विषय-मूलक साधारणीकरण।

"जब तक किसी भाव का कोई विषय इस रूप में नहीं लाया जाता कि वह सामान्यत: सबके उसी भाव का आलम्बन हो सके तब तक उसमें रसोद्बोधन की पूर्ण शक्ति नहीं आती। विषय का इसी रूप में लाया जाना हमारे यहां साधारणीकरण कहलाता है।" (चिन्तामणि १–म भाग)।

आश्रय के साधारणीकरण का शुक्ल जी सिद्धान्तत: विरोध तो नहीं करते पर उनके विवेचन से यह स्पष्ट हो जाता है कि व्यवहारत: वे इसका अनुमोदन भी नहीं करते।

वास्तव में आलम्बन के विषय-मूलक साधारणीकरण होने पर आश्रय के साथ सामाजिक का तादात्म्य-मूलक साधारणीकरण अनिवार्य रूप से स्वयं ही सम्पन्न हो जाता है। उसे मानना या न मानना कोई मतलब नहीं रखता।

नवीन पक्ष :—साधारणीकरण के सम्बन्ध में संस्कृत के आचार्यों से हट कर एक नवीन बात शुक्ल जी ने कही है। वह यह है कि कुछ विशेष परिस्थिति में आश्रय, आलम्बन के रूप में बदल जाता है। ऐसी परिस्थिति तब होती है जब आश्रय के साथ सामाजिक का तादात्म्य नहीं हो पाता बल्कि वह उल्टा सामाजिक के किसी क्रोध जैसे भाव का आलम्बन (उत्पादक) बन जाता है। और जब सामाजिक के लिये आश्रय ही विभाव बन गया तब आश्रय के लिये वह किसी दूसरे पात्र की ओर देखेगा। यह पात्र स्वयं कवि भी हो सकता है और कवि-निबद्ध भी। उदाहरण से यह बात स्पष्ट होगी।

मान लीजिये किसी निरपराध सज्जन को कोई दुष्ट व्यक्ति मारने के लिये उद्यत है और बुरी तरह से उस पर क्रोध की व्यंजना कर रहा है। ऐसी दशा में यह निरपराध व्यक्ति सामाजिकों के क्रोध का आलम्बन नहीं बन सकता जो कि वस्तुतः होना चाहिए था। दूसरी ओर क्रोध की व्यंजना करने वाले उस दुष्ट व्यक्ति के साथ सामाजिकों का तादात्म्य भी नहीं होगा जिसका मतलब है कि वह दुष्ट व्यक्ति आश्रय नहीं रह गया (तादात्म्य होना आश्रय की कसौटी जो है)। बल्कि इसके विपरीत होगा यह कि वह दुष्ट व्यक्ति स्वयं ही सामाजिकों के क्रोध का आलम्बन बन जागगा। इस प्रकार जो व्यक्ति (दुष्ट) आश्रय होना चाहिए था वह जब आलम्बन बन गया तो आश्रय बनने के लिये कोई दूसरा पात्र अपेक्षित होगा। क्योंकि रस-प्रक्रिया में सामाजिक को आश्रय की सदैव आवश्यकता रहती है। उक्त उदाहरण में यदि कोई अन्य पात्र आकर उस दुष्ट व्यक्ति के प्रति क्रोध की व्यंजना करने लगे तो सामाजिकों का उससे समर्थन होगा, दूसरे शब्दों में उससे तादात्म्य होगा और इसीलिये वह आश्रय की संज्ञा प्राप्त करेगा। यहां दूसरी स्थिति यह भी हो सकती है कि कवि उस दुष्ट व्यक्ति के प्रति क्रोध की व्यंजना करने वाला कोई पात्र (आश्रय के रूप में) उपस्थित न करे। ऐसी दशा में सामाजिक कवि की भावना की ओर उन्मुख होगा—उस भावना की ओर जिसके रूप में वह (कवि) उस दुष्ट व्यक्ति का अत्याचार दिखाकर सामाजिकों के सामने तत्फलस्वरूप उसके (दुष्ट व्यक्ति के) लिये भविष्य में बड़ी से बड़ी सजा देने का औचित्य सिद्ध करना चाहता है। यहां कवि के साथ पटरी बैठने के कारण सामाजिक का तादात्म्य कवि के साथ होगा और इसीलिये कवि ही स्वयं आश्रय का रूप ग्रहण कर लेगा। दोनों ही स्थितियों में, यानी चाहे तो कवि उस दुष्ट को सामाजिक के क्रोध का आलम्बन बनाकर किसी अन्य पात्र को आश्रय के रूप में उपस्थित करे या स्वयं ही आश्रय का स्थान ग्रहण कर ले, शुक्ल जी एक मध्यम कोटि की रसात्मकता मानते हैं जो प्राचीन रस-परम्परा में एक नया विभाग खोलती है।

डा० नगेन्द्र

शुक्ल जी के बाद साधारणीकरण पर लिखने वाले डा० नगेन्द्र हैं। "रीति काव्य की भूमिका" में रससम्प्रदाय के अन्तर्गत साधारणीकरण शीर्षक देकर उन्होंने इसका भारी-

भरकम विवेचन किया है। साधारणीकरण का जो निष्कर्ष डा० नगेन्द्र ने निकाला है उसकी प्रेरणा उन्हें शुक्ल जी से ही मिली और लगभग उन्हीं के शब्दों को कुछ नये पैंतरे से रक्खा भी गया है। अन्तर यह है कि शुक्ल जी ने तो एक खास परिस्थिति में (जिसका विवेचन पीछे कर चुके हैं) कवि के साथ तादाम्य होने की बात कही थी किन्तु डा० नगेन्द्र ने सभी परिस्थितियों में सामाजिक का कवि के साथ तादात्म्य मानकर कवि की अनुभूति का ही साधारणीकरण सर्वत्र प्रतिपादित किया है। इसी बात का दूसरा पक्ष है कि उन्होंने आलम्बन और आश्रय के साधारणीकरण का खण्डन किया है। हम आगे प्रामाणित करेंगे कि चाहे आलम्बन और आश्रय का साधारणीकरण माना जाय या कवि की अनुभूति का, कोई विशेष अन्तर नहीं पड़ता फिर भी कवि की अनुभूति का साधारणीकंरण कहने में व्यावहारिक और शास्त्रीय कमजोरियाँ हैं। लेकिन इससे भी आगे बढ़कर डा० नगेन्द्र ने आलम्बन और आश्रय के साधारणीकरण के विपक्ष में एवं कवि की अनुभूति के साधारणीकरण के पक्ष में जो प्रमाण और विवेचन उपस्थित किए हैं वे इतने भ्रान्त और लचर हैं कि उनकी कहीं भी और कोई भी संगति नहीं बैठ पाती। पहले हम डा० नगेन्द्र का पक्ष उपस्थित करते हैं।

डा० नगेन्द्र के विवेचन के दो अंश हैं—खण्डन और मण्डन। खण्डन उन्होंने संस्कृत के आचार्यों एवं शुक्ल जी का किया है। मण्डन अंश में उन्होंने अपनी मान्यता का प्रतिपादन करते हुए अभीप्ट किष्कर्ष निकाला है। क्रमशः दोनों पर विचार कीजिए।

खण्डन अंश :—डा० नगेन्द्र ने इसके भीतर संस्कृत के आचार्यों एवं शुक्ल जी द्वारा स्वीकृत साधारणीकरण को दोषपूर्ण सिद्ध करने का प्रयत्न किया है और अनेक विप्रतिपत्तियां पेश की हैं। किसी के मत का खण्डन करने के लिये पहले ईमानदारी से उसकी सोच-समझ कर स्थापना करनी चाहिए पर डा० नगेन्द्र ने इसकी परवाह नहीं की। शुक्ल जी के निबन्ध को जिस बुरी तरह से उन्होंने तोड़ कर रक्खा है उसे देखकर रोने को जी करता है। तीन जगह शुक्ल जी को उद्धृत किया गया है जिनमें से एक ही स्थल पर उनके साथ न्याय हो सका है। वह स्थल यह है—"जब तक किसी भाव का कोई विषय इस रूप में नहीं लाया जाता कि वह सामान्यतः सबके उसी भाव का आलम्बन हो सके तब तक उसमें रसोद्बोध की पूर्ण शक्ति नहीं होती। विषय का इसी रूप में लाया जाना हमारे यहाँ साधारणीकरण कहलाता है।" इस पर डा० नगेन्द्र ने केवल इतना ही कहा है कि इस प्रकार साधारणीकरण से शुक्ल जी का आशय आलम्बन का साधारणीकरण है।

इससे आगे जो दो जगह उन्होंने शुक्ल जी को उद्धृत किया है उनमें पहली जगह के उद्धरण को विचित्र जरासन्ध की संज्ञा दी जा सकती है। यानी एक वाक्य एक प्रसंग का है और दूसरा वाक्य दूसरे प्रसंग का जिन्हें बहुत ही चमत्कार-पूर्ण टिप्पणी से डा० साहब ने जोड़ दिया है। फिर वाक्यांश (जो कि साकांक्ष था) को बाकायदे पूर्ण विराम लगाकर पूरा वाक्य बना दिया है जिसके फलस्वरूप गणेश जी की जगह बन्दर की अभिव्यक्ति हो गई है। दूसरी जगह के तो उद्धरण के प्रसंग की ओर ही उन्होंने ध्यान नहीं दिया और कुछ का कुछ अर्थ कर मारा है। दोनों को क्रमशः लीजिये।

"तात्पर्य यह है कि आलम्बन रूप में प्रतिष्ठित व्यक्ति समान प्रभाव वाले कुछ धर्मों की प्रतिष्ठा के कारण, सबके भावों का आलम्बन हो जाता है। (डा० नगेन्द्र की यहाँ बीच में टिप्पणी है—'इसका अनुवर्ती परिणाम यह होता है कि पाठक का अपना तादात्म्य आश्रय के साथ हो जाता है')। साधारणीकरण के प्रतिपादन में पुराने आचार्यों ने श्रोता (पाठक) और आश्रय (भाव व्यंजना करने वाला पात्र) के तादात्म्य की अवस्था का ही विचार किया है।"

डा० नगेन्द्र ने इस सन्दर्भ का जो अर्थ किया है उससे पहले इसका वास्तविक अर्थ समझ लेना चाहिए। इस सन्दर्भ में जो पहला वाक्य है वह दूसरे अनुच्छेद का है और दूसरे प्रसंग का है। शुक्ल जी क्रोचे की मान्यता का विवेचन कर रहे थे कि काव्य का कोई विषय सदा विशेष ही रहता है, सामान्य नहीं। वह व्यक्ति सामने लाता है जाति नहीं। यह बात आधुनिक कला-समीक्षा के क्षेत्र में पूर्णतया स्थिर हो चुकी है। आगे शुक्ल जी कहते हैं कि क्रोचे की इस मान्यता के साथ भरत के साधारणीकरण का कोई विरोध नहीं पड़ता। उन्होंने बतलाया कि साधारणीकरण का मतलब यह नहीं है कि विभाव सामान्य या साधारण होता है, वल्कि यह मतलब है कि विभाव सबके एक ही सामान्य भाव का आलम्बन होता है। इसी बात का उपसंहार उपर्युक्त उद्धरण के पहले वाक्य से शुक्ल जी ने किया है जिसके साथ प्रसंग और अनुच्छेद (पैराग्राफ) की भी समाप्ति हो गई है। किन्तु डा० नगेन्द्र ने इस वाक्य को उद्धृत करके अपनी टिप्पणी जड़ते हुए कहा है कि इसका अनुवर्ती परिणाम यह होता है कि पाठक का अपना तादात्म्य आश्रय के साथ हो जाता है और अपनी इस टिप्पणी को प्रमाणित करने के लिये जो शुक्ल जी के उपर्युक्त शब्द अन्त में उद्धृत किए हैं वे दूसरे प्रसंग में आए हुए एक वाक्य का पूर्वार्ध और अपूर्ण भाग है। कभी-कभी पूरे वाक्य की जगह केवल वाक्यांश रख देने से क्या से क्या अर्थ हो जाता है, यह ध्यान देने की बात है। शुक्ल जी का पूरा वाक्य यों है :—

"साधारणीकरण के प्रतिपादन में पुराने आचार्यों ने श्रोता (या पाठक) और आश्रय (भाव व्यंजना करने वाला पात्र) के तादात्म्य की अवस्था का ही विचार किया है जिसमें आश्रय किसी काव्य या नाटक के पात्र के रूप में आलम्बन रूप किसी दूसरे पात्र के प्रति किसी भाव की व्यंजना करता है और श्रोता उसी भाव का रस रूप में अनुभव करता है। पर रस की एक नीची अवस्था और है जिसका हमारे यहां के साहित्य-ग्रन्थों में विवेचन नहीं हुआ। उसका भी विचार करना चाहिए।"

शुक्ल जी ने रस की जो एक नीची अवस्था (मध्यम कोटि के रस) की बात कही है उसका विवेचन हम पीछे 'नवीन पक्ष' शीर्षक देकर कर चुके हैं। यहां प्रसंग इतना ही है कि डा० नगेन्द्र ने जो इस संदर्भ के प्रथम वाक्य के पूर्वार्ध को पूर्ण विराम लगाकर पूरे वाक्य के रूप में उद्धृत किया है उसका अर्थ क्या वही है जो वस्तुतः इस सन्दर्भ से सम्बन्ध रखता है। शुक्लजी का मतलब सर्वथा स्पष्ट है। वे कह रहे हैं कि प्राचीनों ने जो रस की प्रक्रिया मानी है वहां साधारणीकरण की सीमा में (क्योंकि आलम्बन, आश्रय और स्थायी सभी साधारणीकरण की सीमा में हैं,) नियत आश्रय के साथ ही तादात्म्य की स्थिति रहती

है पर शुक्ल जी के अनुसार रस की एक नीची कोटि और है जब वह नियत (पुराना) आश्रय बदल कर आलम्बन हो जाता है और नये आश्रय के रूप में स्वयं कवि ही उपस्थित हो जाता है। शुक्ल जी का उक्त उद्धरण में यह आशय कदापि नहीं है कि पुराने आचार्यों ने केवल तादात्म्य-मूलक साधारणीकरण ही माना है लेकिन डा० नगेन्द्र ने इसका यही अर्थ कर डाला है कि शुक्ल जी यह कह रहे हैं कि प्राचीन आचार्य तादात्म्य-मूलक साधारणीकरण ही मानते थे। और फिर लगे शुक्ल जी का खण्डन करने :

"इसका संकेत विश्वनाथ में मिलता है। परन्तु यह भट्टनायक और अभिनव का मत नहीं है। उन दोनों ने शब्द-भेद से स्थायी भाव विभावादि सभी का साधारणीकरण माना है।" (रीतिकाव्य की भूमिका)

इस सन्दर्भ के पहले वाक्य का मतलब है कि केवल तादात्म्य-मूलक साधारणीकरण का संकेत साहित्यदर्पणकार विश्वनाथ ने किया है और उसी के आधार पर शुक्ल जी ऐसा कह रहे हैं। पर हम पीछे विश्वनाथ का मत उपस्थित कर चुके हैं जिसमें स्पष्ट अभिधावृत्ति से विभाव, आश्रय और स्थायी का भी साधारणीकरण माना गया है और सभी के लिये अलग-अलग कारिकायें दी गई हैं। काश, डा० नगेन्द्र ने विश्वनाथ के साहित्यदर्पण का कम से कम यह साधारणीकरण वाला प्रसंग पढ़ लिया होता।

तीसरी जगह शुक्ल जी को इस तरह उद्धृत किया गया है :—"कभी कभी ऐसा होता है कि पाठक या श्रोता की मनोवृत्ति या संस्कार के कारण वर्णित व्यक्ति विशेष के स्थान पर कल्पना में उसी के समान धर्म वाली कोई मूर्ति विशेष आ जाती है। जैसे यदि किसी पाठक या श्रोता का किसी सुन्दरी से प्रेम है तो शृंगार रस की फुटकल उक्तियां सुनने के समय रह–रह कर आलम्बन रूप में उसकी प्रेयसी की मूर्ति ही उसके सामने आएगी।"

इसके ऊपर जो डा० नगेन्द्र की आलोचना है उमे उन्हीं के शब्दों में हम उद्धृत कर रहे हैं।

"..........भट्ट नायक और अभिनव गुप्त इसका भी निषेध करते हैं कि हम दुष्यन्त के स्थान पर अपने को और शकुन्तला के स्थान पर अपनी प्रेयसी को देखने लगते हैं, क्योंकि एक तो अपनी रति का प्रकाश लज्जास्पद है दूसरे यह भी सम्भव है कि हमारा किसी व्यक्ति-विशेष से प्रेम ही न हो। उस समय शुक्ल जी कहते हैं कि हमारे सामने किसी कल्पित सुन्दरी का चित्र आएगा, किन्तु किसी कल्पित सुन्दरी का चित्र आना व्यक्तिगत रति का नहीं साधारण रति का रूप है।"

यहां केवल इतना समझना है कि प्राचीन आचार्यों ने रस-प्रक्रिया के भीतर 'इदानींतनी' और 'प्राक्तनी' दोनों प्रकार की वासनायें मानी हैं और इसी वासना को संस्कार भी कहा है। आखिर वासना-रूप से संस्कारों में स्थित कोई भाव जब प्रबुद्ध होता है उसी को तो रस कहा जाता है। 'इदानींतनी' वासना के भीतर यह संस्कार हमारे इसी जन्म का होता है चाहे वह हमारे किसी व्यक्तिविशेष के साथ प्रेम के रूप में हो या लोक एवं काव्य-कथाओं के रूप में हो। कुछ सही, संस्कार रूप में स्थित भाव ही उद्बुद्ध होकर रस-पदवी प्राप्त करता है, इसमें किसी को लव-लेश भी संदेह नहीं। शुक्ल जी भी यही

कह रहे हैं और पहले ही वाक्य में उन्होंने सावधानी से 'संस्कार' और 'कल्पना' शब्द का प्रयोग कर दिया है—'श्रोता की मनोवृत्ति सा संस्कार के कारण वर्णित व्यक्ति-विशेष के स्थान पर कल्पना में उसी के समान धर्म वाली कोई मूर्ति-विशेष आ जाती है।' फिर भी डा० नगेन्द्र ने शुक्ल जी के इस सन्दर्भ का जो प्राइवेट अर्थ कर लिया है उसे देख कर सिर चकराता है। शुक्ल जी होते तो डा० नगेन्द्र को समझा देते कि भैय्या, शकुन्तला के स्थान पर अपनी प्रेयसी को देखना एक बात है और शकुन्तला के रूप में अपने संस्कारों में बसी हुई अपनी (इसीलिए कल्पित) प्रेयसी को देखना बिल्कुल दूसरी बात है। पहली बात का सम्बन्ध प्रत्यक्ष इन्द्रियों से और प्रत्यक्ष लोक से है पर दूसरी बात का सम्बन्ध अप्रत्यक्ष इन्द्रियों (संस्कारावस्थित) से, कल्पना से और साहित्य से है। पहली बात का विषय संसार का सुख-दुख है पर दूसरी बात का विषय साहित्य का ब्रह्मास्वादसहोदर रस है।

खैर आगे बढ़िये। अब डा० नगेन्द्र प्राचीन आचार्यों के साधारणीकरण का भी खण्डन कर रहे हैं। वे कहते हैं कि साधारणीकरण न आश्रय का हो सकता है और न आलम्बन का। आश्रय के साधारणीकरण का खण्डन करने के लिये वे सीता पर क्रोध करते हुए रावण का उदाहरण देते हैं। वे कहते हैं कि सीता क्रोध का आलम्बन है और रावण उस क्रोध की व्यंजना करने वाला आश्रय। सामाजिक इस दुष्ट रावण के साथ तादात्म्य नहीं कर सकते जिसका मतलब है कि आश्रय का साधारणीकरण नहीं होगा।

ठीक है। पर यह आशंका तो शुक्ल जी ने ही सबसे पहले उठाई थी और उसका समाधान भी वे कर गए। पीछे शुक्ल जी का 'नवीन पक्ष' देकर इसे बतलाया भी जा चुका है। यही वह उदाहरण है जब नियत (पुराना) आश्रय आलम्बन में बदल बदल जाता है और कवि स्वयं ही आश्रय का पद ग्रहण कर लेता है। उक्त उदाहरण में सीता पर क्रोध करते हुए रावण के साथ जब सामाजिकों का तादात्म्य नहीं होता तब वह आश्रय रह ही नहीं गया (तादात्म्य होना आश्रय की परिभाषा जो है)। शुक्ल जी के अनुसार यहां आश्रय, रावण नहीं, कवि होगा। फलतः क्रोध करता हुआ रावण न तो प्राचीनों के अनुसार ही आश्रय रह सकता है और न शुक्ल जी के अनुसार ही। पर डा० नगेन्द्र जबर्दस्ती उसे आश्रय समझ कर उसका खण्डन कर रहे हैं। मजेदार बात है।

दूसरी बात यह है कि सीता पर क्रोध करता हुआ रावण जब सामाजिकों के क्रोध जैसे भाव को साधारणतया उत्पन्न करता है तब वह आलम्बन विभाव बन गया और सिद्धान्ततः उसका भी विषय-मूलक साधारणीकरण होता ही है। तादात्म्य की कसौटी केवल आश्रय के साधारणीकरण के लिये है, आलम्बन के साधारणीकरण के लिये नहीं। डा० नगेन्द्र की बात मानकर यदि आलम्बन के साधारणीकरण में भी तादात्म्य होना अनिवार्य कर दिया जाय तो रौद्र जैसे रसों की पक्रिया में खलनायक जैसे विरोधी और घृणित आलम्बन का साधारणीकरण ही न होगा क्योंकि उसके साथ सामाजिक का तादात्म्य कब होता है?

इससे आगे जो किसी पूंजीबादी नायक के साधारणीकरण का खण्डन डा० नगेन्द्र कर रहे हैं उसमें भी वही बात है। यानी वह पूंजीवादी नायक सिद्धान्ततः सामाजिकों के क्रोध

जैसे भाव का आलम्बन है, आश्रय नहीं। इसलिये इसका साधारणीकरण विषय-मूलक होगा तादात्म्य-मूलक नहीं। पर डा० नगेन्द्र के पास तो साधारणीकरण का एक ही पैमाना है कि जिसके साथ तादात्म्य हो उसी का साधारणीकरण होता है। फलतः उनके यहाँ इस पूँजीवादी नायक का साधारणीकरण ही न होगा। अच्छी मुशीबत है।

मण्डन अंश : आगे डा० नगेन्द्र आलम्बन के साधारणीकरण को कवि की अनुभूति का साधारणीकरण मानना अधिक पसन्द करते हैं। शृंगार रस की प्रक्रिया में सीता और राम का उदाहरण देकर उन्होंने यह अड़चन पेश की है कि सीता जगज्जननी है; वह सामाजिकों की प्रिया नहीं बन सकती अतः उसका साधारणीकरण नहीं होगा। लेकिन ऐसे स्थलों पर भी शृंगार रस की अनुभूति तो होती ही है। ऐसी दशा में डा० नगेन्द्र की मान्यता है कि "हम काव्य की सीता से प्रेम करते हैं और काव्य की यह आलम्बन रूप सीता कोई व्यक्ति नहीं है जिससे हमको किसी प्रकार का संकोच करने की आवश्यकता हो, वह कवि की मानसी सृष्टि है अर्थात् कवि की अपनी अनुभूति का प्रतीक है। उसके द्वारा कवि ने अपनी अनुभूति को हमारे प्रति संवेद्य बनाया है। बस, इसीलिये जिसे हम आलम्बन कहते हैं वह वास्तव में कवि की अपनी अनुभूतियों का संवेद्य रूप है। उसके साधारणीकरण का अर्थ है कवि की अनुभूति का साधारणीकरण जो भट्टनायक और अभिनवगुप्त का प्रतिपाद्य है। अतएव निष्कर्ष यह निकला कि साधारणीकरण कवि की अपनी अनुभूति का होता है।"

इसी अनुच्छेद में फिर डा० नगेन्द्र कहते हैं कि "काव्य में वर्णित सीता वह सीता नहीं हैं जो हमारी परम्परा-गत पूज्य बुद्धि का प्रतीक है बल्कि वह कवि की अपनी अनुभूति का प्रतीक है। तुलसी को यदि उसके प्रति अमिश्रित रति की अनुभूति न होकर श्रद्धा-मिश्रित रति की अनुभूति होती है तो हमको भी वैसी ही होगी। हम राम से तादात्म्य न करके तुलसी से तादात्म्य कर पायेंगे। ऐसी दशा में हमको रसानुभूति तो होगी पर अमिश्रित शृंगार की नहीं। इसके विपरीत कुमारसम्भव या रीति-कालीन प्रेम-प्रसंगों को पढ़कर यदि हमें अमिश्रित शृंगार की अनुभूति होती है तो उसका कारण यही है कि तुलसी के विपरीत कालिदास या रीतियुग के कवि की तद्विषयक अनुभूति अमिश्रित रति की ही अनुभूति है। यह सीधा सत्य है जिसे एक ओर साधारणीकरण के आविष्कारक भट्टनायक और अभिनवगुप्त भारत की अव्यक्तिगत काव्य-परम्परा के कारण, दूसरी ओर आधुनिक आलोचना में उसके पृष्ठ-पोषक शुक्ल जी अपनी वस्तु-परक दृष्टि के कारण स्पष्ट रूप में व्यक्त नहीं कर पाए थे।"

यहाँ यह बात समझ में नहीं आई कि सीता रूप आलम्बन का साधारणीकरण न मान कर कवि की अनुभूति के साधारणीकरण मानने में कौन सी सहूलियत है। खास कर उस दशा में जब डा० नगेन्द्र स्वयं ही यह कह रहे हैं कि जिसे हम आलम्बन कहते हैं वह वास्तव में कवि की अपनी अनुभूति का संवेद्य रूप है, उसके साधारणीकरण का अर्थ है कवि की अनुभूति का साधारणीकरण"। और आलम्बन ही क्यों, आश्रय भी तो कवि की अनुभूति का 'संवेद्य रूप है अतः उसके साधारणीकरण का अर्थ भी कवि की अनुभूति का साधारणीकरण हुआ। फिर यह कहने में क्या तुक है कि 'हम राम के साथ तादात्म्य न कर तुलसी के

साथ तादात्म्य करते हैं' क्या डा० नगेन्द्र यह कहना चाहते हैं कि सीता रूप आलम्बन तो कवि की अनुभूति का प्रतीक है पर राम रूप आश्रय कवि की अनुभूति का प्रतीक नहीं है। यदि उनका उत्तर 'हाँ' में है तब तो कवि की अनुभूति की तरह उसके (अनुभूति के) प्रतीक रूप राम का भी साधारणीकरण होने में कोई अड़चन न होनी चाहिए और यदि उनका उत्तर 'नहीं' में है तो उनकी शव्दावली उन्हीं पर लौट पड़ती है कि एक सीधा सा सत्य था जिसे उन्होंने बुरी तरह उलझा दिया है।

और फिर जहाँ तक कवि की अनुभूति के साधारणीकरण (यदि तादात्म्य का अर्थ तादात्म्य-मूलक साधारणीकरण है) की बात है वह डा० नगेन्द्र का अपना आविष्कार भी नहीं है जिसे लेकर वे इतने गरज रहे हैं। शुक्ल जी का ही यह आविष्कार है जिसका निर्देश हम उनके 'नवीन पक्ष' में कर चुके हैं। शुक्ल जी के शब्दों में ही इसे पढ़ लीजिए: "तादात्म्य कवि के उस अव्यक्त भाव (डा० नगेन्द ने इसकी जगह पर बदल कर अनुभूति शब्द रक्खा है) के साथ होता है जिसके अनुरूप वह पात्र का स्वरूप संघटित करता है। जो स्वरूप कवि अपनी कल्पना में लाता है उसके प्रति उसका कुछ भाव अवश्य रहता है। वह उसके किसी भाव का आलम्बन अवश्य होता है। अत: पात्र का स्वरूप कवि के जिस भाव का आलम्बन रहता है पाठक या दर्शक के भी उसी भाव का प्रायः आलम्बन होता है। जहां कवि किसी वस्तु या व्यक्ति का केवल चित्रण करके छोड़ देता है वहां कवि ही आश्रय के रूप में रहता है। उस वस्तु या व्यक्ति का चित्रण वह उसके प्रति कोई भाव रख कर ही करता है। उसी के भाव के साथ पाठक या दर्शक का तादाम्य रहता है, उसी का आलम्बन पाठक या दर्शक का आलम्बन हो जाता है।"

अन्तर केवल इतना है कि शुक्ल जी कवि के अव्यक्त भाव (अनुभूति) का साधारणीकरण उसी परिस्थिति में मानते हैं जब कि कवि को स्वयं आश्रय का पद ग्रहण करना पड़ता है। यह भी तब सिद्ध होता है जब तादात्म्य-मूलक साधारणीकरण की कोटि मानी जाय अर्थात् आश्रय का भी साधारणीकरण माना जाय। इससे दो पैर आगे बढ़कर विषय-मूलक साधारणीकरण भी कवि की अनुभूति का करना और वह भी तादात्म्य-पुरस्सर करना जरूर ही डा० नगेन्द्र की अपनी खोज है जिसकी असंगतियां दिखाई जा चुकी हैं। यह भी कहा गया है कि रौद्र, करुण और वीभत्स जैसे रसों में विरोधी आलम्बन होता है जिसके साथ सामाजिक का तादात्म्य नहीं हो सकता पर विषय-मूलक साधारणीकरण होता ही है। यानी तादात्म्य आलम्बन के साधारणीकरण की कसौटी नहीं है।

निष्कर्ष यह है कि प्राचीनों की मान्यता के सम्बन्ध में जितनी अड़चनें डाक्टर नगेन्द्र ने उपस्थित की हैं वे सब भ्रान्त हैं और अपनी मान्यता के मण्डनार्थ जो दलील दी हैं वे सब लचर हैं। सीधी सी बात थी कि साधारणीकरण की दो कोटियाँ हैं। विषय-मूलक और तादात्म्य-मूलक। विषय-मूलक साधारणीकरण आलम्बन का होता है और तादात्म्य-मूलक साधारणीकरण आश्रय का। यहां केवल इतनी सी बात और समझने की है कि आलम्बन तो सदा कवि-निबद्ध (कोई वस्तु या पात्र) ही होता है जब कि आश्रय कवि-निबद्ध कोई पात्र भी हो सकता है और कभी-कभी स्वयं कवि भी। 'मेघदूत' में यक्ष और यक्ष-पत्नी के बीच

यक्ष-पत्नी आलम्बन है और यक्ष आश्रय है किन्तु 'आँसू' में कवि-प्रेयसी आलम्बन है और आश्रय स्वयं कवि (प्रसाद) है। पहले उदाहरण में यक्षपत्नी का विषय-मूलक साधारणीकरण होगा और यक्ष के साथ सामाजिकों का तादात्म्य होने से उसका तादात्म्य-मूलक साधारणीकरण होगा। दूसरे उदाहरण में कवि-प्रेयसी का विषय-मूलक साधारणीकरण होगा और स्वयं कवि के साथ तादात्म्य होने से उसका तादात्म्य-मूलक साधारणीकरण होगा। तात्पर्य यह है कि कवि का अपने विशुद्ध रूप में साधारणीकरण कभी भी नहीं हो सकता। कवि का साधारणीकरण तभी सम्भव है जब वह आश्रय के रूप में भी अपनी भूमिका निबाह रहा हो। इसी तरह यदि सीता पर क्रोध करते हुए रावण के साथ सामाजिक का तादात्म्य-मूलक साधारणीकरण न होकर कवि के साथ वह होता है तो इसमें चौंकने की क्या बात है। यहां रावण क्रोध का आलम्बन है और कवि स्वयं आश्रय है। फलतः आलम्बन और आश्रय के साधारणीकरण मानने में कोई भी परेशानी नहीं है जिसके लिये कवि की अनुभूति का साधारणीकरण माना जाय।

यहां कोई तटस्थ व्यक्ति यह प्रस्ताव कर सकता है कि यदि डा० नगेन्द्र का खण्डन-मण्डन असंगत और अप्रामाणिक है तो उसे छोड़ दिया जाय। किन्तु उनके अनुसार कवि की अनुभूति का साधारणीकरण मान लिया जाय तो क्या हर्ज है ?

आइए, इस पर भी विचार कर लें। यदि आग्रह है कि कवि की अनुभूति का साधारणीकरण माना जाय तो प्रश्न उठता है कि कवि की अनुभूति मात्र (सारी अनुभूतियों) का साधारणीकरण माना जाय अथवा किसी खास अनुभूति का। कवि की समस्त अनुभूतियों का साधारणीकरण तो डा० नगेन्द्र स्वयं ही नहीं मानते। उनके अनुसार सीता पर क्रोध करते हुए रावण का (जो कवि की अनुभूति का एक संवेद्य रूप है) साधारणीकरण नहीं बनता। पूंजीवादी नायक के उदाहरण में भी यही बात है। तब फिर क्या कवि की किसी खास अनुभूति का साधारणीकरण माना जाय। यदि ऐसा है तो बतलाइए कि उस खास अनुभूति की क्या पहचान है ? डा० नगेन्द्र इसकी पहचान तादात्म्य बतलायेंगे। अर्थात् वे यही कहेंगे कि जिसके साथ सामाजिक का तादात्म्य हो, कवि की उसी अनुभूति का साधारणीकरण होता है। तब फिर स द्रविड़ प्राणायाम से क्या लाभ ? यही क्यों न कहा जाय कि आश्रय का साधारणीकरण होता है। क्योंकि जिसके साथ तादात्म्य हो उसी को प्राचीनों ने आश्रय की संज्ञा दे रक्खी है। यह कहने की अपेक्षा कि जिसके साथ पाठकों का तादात्म्य हो उसका साधारणीकरण होता है, यह कहना कहीं अधिक लाघवपूर्ण और वैज्ञानिक है कि आश्रय का साधारणीकरण होता है।

एक बात और भी है। जब डा० नगेन्द्र यह कहेंगे कि कवि की जिस अनुभूति के साथ सामाजिक का तादात्म्य हो उसी का साधारणीकरण होता है तब यह भी विचार करना पड़ेगा कि वह कौन सा विषय था जिसके ऊपर पाठक, कवि की उस अनुभूति से सहमत हो रहा है और तादात्म्य कर रहा है। प्राचीनों ने तो इस विषय का नाम आलम्बन रक्खा है। डा० नगेन्द्र इसका क्या नाम रक्खेंगे इसे तो वे ही जानें पर इतना मानना पड़ेगा कि यह विषय भी कवि की एक अनुभूति का ही संवेद्य रूप है और इसका साधारण होना (यानी साधारणीकरण होना) सबसे पहले आवश्यक है तभी तो उसके बारे में पाठक, कवि

की किसी दूसरे प्रकार की अनुभूति (आश्रय रूप से प्राचीनों द्वारा स्वीकृत) से सहमत होकर तादात्म्य करेगा और फिर तादात्म्य-मूलक साधारणीकरण की नौबत आएगी। इन सब बातों का मतलब यह निकला कि डा० नगेन्द्र को कवि की दो प्रकार की अनुभूतियों का साधारणीकरण अलग-अलग मानना होगा। पहली अनुभूति (आलम्बन विभाव के रूप में) का साधारणीकरण विषय-मूलक और दूसरी अनुभूति (आश्रय के रूप में) का साधारणीकरण तादात्म्य-मूलक। तब फिर यह कहने की अपेक्षा कि कवि की एक प्रकार की अनुभूति का साधारणीकरण विषय-मूलक होता है और दूसरे प्रकार की अनुभूति का साधारणीकरण तादात्म्य-मूलक, यह कहना कहीं अधिक लाघव-पूर्ण और वैज्ञानिक है कि आलम्बन का साधारणीकरण विषय-मूलक और आश्रय का साधारणीकरण तादात्म्य-मूलक होता है।

निष्कर्ष यह है कि कवि की अनुभूति का साधारणीकरण मानने की अपेक्षा आलम्बन और आश्रय का साधारणीकरण मानना कहीं अधिक शास्त्रीय और व्यावहारिक है।

आचार्य नन्ददुलारे वाजपेयी

डा० नगेन्द्र से पहले हमें वाजपेयी जी को लेना चाहिये था पर सम्भवतः वाजपेयी जी का ध्यान साधारणीकरण की ओर अपेक्षाकृत बाद में गया और जो कुछ भी उन्होंने इस पर लिखा है वह किसी जज के निर्णय जैसा संक्षिप्त है इसलिये बहुत कम उनके सम्बन्ध में कहना था। 'नया साहित्य, नये प्रयोग' के भीतर निम्नलिखित अनुच्छेद उनका है :

"साधारणीकरण के साहित्यिक सिद्धान्त के साथ कुछ असाहित्यिक दलीलें भी लाकर जोड़ दी गई हैं। उदाहरण के लिए यह कहा जाता है कि देवताओं और पूज्य व्यक्तियों के रतिभाव का साधारणीकरण प्रेक्षक को नहीं हो सकता। पर प्रश्न यह है कि रचयिता या कवि के लिए भी तो ये देवता या पुण्यचरित्र उतने ही पूज्य हैं जितने दर्शक या श्रोता के लिये। ऐसी अवस्था में कवि द्वारा वर्णित देवताओं का रतिभाव दर्शकों को उसी प्रकार प्रभावित करेगा—उसी भाव की सृष्टि करेगा जिस भाव की अनुभूति कवि या नाटककार ने स्वतः की है। उससे भिन्न भाव की सृष्टि हो ही नहीं सकती, क्योंकि कवि की रचना में उससे भिन्न भाव की स्थिति ही नही है। साधारणीकरण का अर्थ रचयिता और उपभोक्ता (कवि और दर्शक) के बीच भावना का तादात्म्य ही है। साधारणीकरण वास्तव में कवि-कल्पित समस्त व्यापार का होता है केवल किसी पात्र-विशेष का नहीं। इस तथ्य को न समझने के कारण ही साधारणीकरण के प्रश्न पर अनेक निरर्थक विवाद होते रहे हैं।"

वाजपेयी जी के इस सन्दर्भ के अनुसार यह तो स्पष्ट ही है कि वे डा० नगेन्द्र से बहुत कुछ अलग बोल रहे हैं। डा० नगेन्द्र कवि की अनुभूति का साधारणीकरण मानते हैं पर वाजपेयी जी कवि-कल्पित समस्त व्यापार का। डा० नगेन्द्र के यहां कोई ऐसी भी कवि की अनुभूति या अनुभूति का संवेद्य रूप है जिसका साधारणीकरण नहीं होता—जैसे सीता पर क्रोध करते हुए रावण का या पूंजीवादी नायक का। पर वाजपेयी जी का मतलब है कि 'पात्र-विशेष' के साधारणीकरण की बात करना या न करना बिल्कुल बेकार है। समष्टि रूप में देखा जाय तो सभी पात्रों के निर्माण में जो कवि की मूल प्रवृत्ति या व्यापार है उसके साथ ही सामाजिक का तादात्म्य होता है। इस प्रकार किसी भी पात्र के साधारणी-

करण का खण्डन नहीं किया जा सकता जैसा कि डा० नगेन्द्र ने किया है। दूसरी ओर वाजपेयी जी का यह भी मतलब है कि किसी पात्र-विशेष के साधारणीकरण पर जोर देना भी उसी प्रकार बेकार है। यहां उनकी चोट शायद शुक्ल जी की तरफ है जिन्होंने केवल आलम्बन के साधारणीकरण पर विशेष बल दिया है। निष्कर्ष यह है कि प्रकारान्तर से वाजपेयी जी संस्कृत के आचार्यों की मान्यता से जितने सहमत हैं उतने डा० नगेन्द्र और आचार्य शुक्ल जी की मान्यता से नहीं। क्योंकि जब वे कवि-कल्पित समस्त व्यापार का साधारणीकरण मान रहे हैं तो इसका प्रकारान्तर से यही अर्थ है कि विभाव, अनुभाव आदि सभी का साधारणीकरण उन्हें इष्ट है और संस्कृत के आचार्यों का यही पक्ष है।

वास्तविक बात तो यह है कि शुक्ल जी और वाजपेयीजी की मान्यताओं में भी कोई तात्विक अन्तर नहीं है, केवल दृष्टि-भेद है। यह माना कि जब वाजपेयी जी यह कहते हैं कि किसी पात्र-विशेष का ही साधारणीकरण नहीं होता तब निश्चय ही उनका संकेत शुक्ल जी की तरफ है जिन्होंने आलम्बन के साधारणीकरण पर ही जोर दिया है। पर वाजपेयी जी यहां स्वयं ही एक शास्त्रीय चोट खा गए हैं। पात्र-विशेष का मतलब आलम्बन नहीं होता और न आलम्बन का मतलब कोई पात्र-विशेष ही होता है। आलम्बन और आश्रय, ये पात्र नहीं बल्कि पात्रों की दो जातियां हैं। जिन पात्रों से सामाजिक का कोई भाव उत्पन्न होता है वे आलम्बन की जाति में चले जाते हैं और जिन पात्रों के साथ सामाजिक की उस भाव को लेकर पटरी बैठती है (तादात्म्य होता) वे आश्रय जाति के कहलाते हैं। इसीलिए पहली जाति को कारण के रूप में और पिछली जाति को कार्य के रूप में संस्कृताचार्यों ने स्वीकार किया था। इसका स्पष्ट मतलव है कि जैसे कारण और कार्य की परिभाषायें निश्चित होती हैं उसी प्रकार आलम्बन और आश्रय की भी क्रमशः विषय-मूलक और तादात्म्य-मूलक परिभाषायें निश्चित हैं। पात्रों का क्या ठिकाना ? व्यक्ति-रूप में तो उनकी कोई परिभाषा होती ही नहीं। वर्ग रूप में (धीरोदात्त, धीरललित आदि) उनकी परिभाषायें जरूर मिलती हैं किन्तु आलम्बन और आश्रय की दृष्टि से उनका भी कोई ठीक-ठिकाना नहीं। कोई पात्र हो या पात्रों का कोई वर्ग (धीरोदात्तादि) रस-प्रक्रिया के भीतर क्षणमात्र में आलम्बन और क्षणमात्र में आश्रय बन जाता है। मंच पर दुष्यन्त-शकुन्तला के प्रणय-व्यापार में यह चक्र इतनी तेजी से घूमता है कि यह निर्णय करना प्रायः कठिन ही है कि इन दोनों में से कौन और कब आलम्बन और आश्रय है।

अब जिस वजह से हम शुक्ल जी और वाजपेयी जी की मान्यताओं में कोई तात्विक अन्तर नहीं देखते उसका भी निर्देश करते हैं। एक ही वस्तु को ये दोनों आचार्य देख रहे हैं पर विपरीत कोण (एंगिल) से। एक इस सिरे पर खड़ा हुआ है दूसरा उस सिरे पर। इस सिरे पर खड़ा होने वाला पहले इस सिरे को देखता है और उस सिरे पर खड़ा होने वाला पहले उस सिरे को। किसी कृति या रचना के भी दो सिरे होते हैं—एक कवि और दूसरा सामाजिक। शुक्ल जी सामाजिक वाले सिरे से विचार कर रहे हैं और वाजपेयी जी कवि वाले सिरे से। शुक्ल जी की दृष्टि इसीलिए पहले विषय (जो कवि द्वारा उपस्थित है) पर है और वाजपेयी जी की दृष्टि इसीलिये पहले कवि-व्यापार (जिसके द्वारा विषय उपस्थित है) पर है। शुक्ल जी इसीलिये विषय-मूलक साधारणीकरण की बात कह रहे हैं और

वाजपेयी जी इसीलिये कविव्यापार के साधारणीकरण की बात कह रहे हैं। शुक्ल जी विषय-मूलक साधारणीकरण करने के बाद तादात्म्य के लिए पहले कवि-सृष्टि को ही देखते हैं और यदि वहां उन्हें कोई आश्रय नहीं मिलता तो कवि की अव्यक्त भावना के साथ तादात्म्य करने की बात सोचते हैं। किन्तु वाजपेयी जी कवि-व्यापार का साधारणीकरण करने के बाद तादात्म्य के लिये कवि की भावना को ही सामाजिक के पास तक भिजवाने की व्यवस्था कर देते हैं।

यहां एक बार फिर यह प्रश्न उठता है कि जब शुक्ल जी और संस्कृत के आचार्यों की मान्यता से वाजपेयी जी की मान्यता में तत्वत: कोई अन्तर नहीं पड़ता तब बाजपेयी जी की ही परिभाषा साधारणीकरण के सम्बन्ध में क्यों न मान ली जाय। उत्तर यह कि वाजपेयी जी की परिभाषा शास्त्रीय और व्यावहारिक दृष्टि से अपूर्ण है क्योंकि वह साकांक्ष है। केवल इतना कह देने से कि 'साधारणीकरण का अर्थ रचयिता और भोक्ता के बीच भावना का तादात्म्य ही है या साधारणीकरण कवि-कल्पित समस्त व्यापार का होता है" बात पूरी नहीं हो पाती। प्रश्न उठता है कि रचयिता (कवि) और भोक्ता (पाठक) के बीच जो भावना का तादात्म्य बतलाया जा रहा है उसका आधार क्या है? यानी ऐसा कोई विषय भी तो होना चाहिए जिसके बारे में कवि और सामाजिक एकमत हैं और उनकी भावना का तादात्म्य हो जाता है। यह भी निश्चित है कि यह विषय भी कवि-कल्पित व्यापार या कवि की भावना के द्वारा ही उपस्थित है क्योंकि यह काव्य के भीतर है। बस, यहीं से कवि की भावना या व्यापार के दो वर्ग हो जाते हैं। एक वह जिसे वह विषय वस्तु (आलम्बन) के रूप में सामाजिक के सामने फेंक देता है और दूसरा वह जिसके साथ सामाजिक (उस विषय वस्तु के बारे में एकमत होने के बाद) तादात्म्य प्राप्त करेगा। कहने का मतलब है कि यदि कवि की तरफ से ही विचार किया जाय तो पाठक को अपनी भावना के साथ मिलाने (तादात्म्य कराने) के लिये उसे (कवि को) पहले आलम्बन के रूप मे कोई विषय-वस्तु साधारण करके देनी होगी तभी बाद में पाठक के द्वारा उसे समर्थन प्राप्त होगा। और कहने की आवश्यकता नहीं कि आलम्बन के रूप में जो कोई विषय-वस्तु कवि-द्वारा पाठक को दी जायगी वह कवि की एक प्रकार की भावना या उसका संवेद्य रूप ही होगी। उदाहरणार्थ यदि किसी कवि ने अत्याचारी रावण का चित्र उपस्थित किया है तो यह उसकी एक प्रकार की भाबना का संवेद्य रूप ही है। यहां कवि की दूसरी प्रकार की भावना वह है जिसके द्वारा कवि रावण की दुष्टता दिखाकर उसकी सजा का औचित्य सिद्ध करना चाहता है। पाठक पहले प्रकार की भावना के आलम्बन से (सहारे से) आगे बढ़ कर दूसरे प्रकार की भावना से सहमत होकर तादात्म्य करेगा। इस तरह जबर्दस्ती कवि की भावना के दो पक्ष मानने पड़ जाते हैं—एक आश्रय जिसके साथ पाठक का तादात्म्य (ऐकमत्य) कवि चाहता है और दूसरा आलम्बन जिसके सहारे पाठक साधारण रूप से यात्रा करके कवि के पास तक (कवि की आश्रय रूप में स्थित भावना के साथ तादात्म्य करने के लिये) पहुंचता है। इस प्रकार आलम्बन और आश्रय की जड़ एवं तदनुसार साधारणीकरण की विषय-मूलक और तादात्म्य-मूलक दो कोटियां इतनी मजबूत हैं कि वाजपेयी जी जैसे समर्थ आलोचक के झटके से भी ये हिली नहीं।

साधारणीकरण के सम्बन्ध में वाजपेयी जी की एक बात और भी ध्यान देने योग्य है। वे कहते हैं कि "साधारणीकरण के साहित्यिक सिद्धान्त के साथ कुछ असाहित्यिक दलीलें भी लाकर जोड़ दी गई हैं। उदाहरण के लिये यह कहा जाता है कि देवताओं और पूज्य-व्यक्तियों के रति भाव का साधारणीकरण प्रेक्षक को नहीं हो सकता। पर प्रश्न यह है कि रचयिता या कवि के लिये भी तो ये देवता या पुण्य-चरित्र उतने ही पूज्य हैं जितने दर्शक या श्रोता के लिये।"

यहां असाहित्यिक दलील क्या है, यह हमारी समझ में नहीं आई। पूजा या आदर का भाव भी एक संस्कार है जो प्रत्येक युग में किसी न किसी सम्बन्ध से रहता है। अपने आदरणीय व्यक्तियों की रति का चित्रण प्राचीनों ने अनुचित कहा है। इसीलिये यदि कोई कवि ऐसा करता है तो सामाजिक को यहां साधारणीकरण में कुछ कमी का अनुभव अवश्य होता है। ऐसी ही कुछ अड़चनों के कारण संस्कृत के आचार्यों ने रस-प्रक्रिया के भीतर रसाभास की स्थितियां मानी हैं। वाजपेयी जी से कोई पूछ सकता है कि क्या यह सभी कुछ असाहित्यिक है ?

और यह भी कोई नियम नहीं है कि रचयिता या कवि के लिये भी वे देवता या पुण्य-चरित्र उतने ही पूज्य हों जितने दर्शक या श्रोता के लिये। देश-काल के अतिरिक्त व्यक्तिगत संस्कारों का भी थोड़ा अन्तर पड़ सकता है। उदाहरणार्थ कोई विदेशी कवि सीता-राम का श्रृंगारिक चित्रण करता है: उसकी दृष्टि में सीता-राम पूज्य व्यक्ति बिल्कुल नहीं हैं। पर यदि सीता-राम में पूज्य भाव रखने वाले भारतीय सहृदय उसे पढ़ते हैं तो क्या हू-बहू उनका तादात्म्य उस विदेशी कवि की भावना से हो जायगा ? और विदेशी क्यों, किसी ऐसे देशी कवि का उदाहरण भी लिया जा सकता जिसने स्वच्छन्द होकर या किसी और रहस्य की दृष्टि से शिव-पार्वती के रति का चित्रण कर दिया हो। पर क्या भारत का संस्कारी समाज ऐसे स्थल पर कविकी मूल भावना से एक दम पूर्ण तादात्म्य कर लेता है ? पूर्ण तादात्म्य नहीं होता इसीलिये अधिकांश की दृष्टि में कुमारसम्भव के अष्टम सर्ग को आज तक रसाभास का उदाहरण माना जा रहा है।

दृष्टान्त तो ऐसे भी मिल सकते हैं कि जहाँ बड़े से बड़े कवि की मूल-भावना के साथ किसी स्थल पर पाठक का एक इंच भी तादात्म्य न हो। भले ही ऐसा स्थल उस पाठक के लिये साहित्य न रहे पर इससे यह बात तो सिद्ध हो ही जाती है कि कवि और पाठक की भावना के तादात्म्य होने का नियम सार्वत्रिक नहीं है। लंका का यदि कोई कवि तुलसी की रामायण के चारों खाने विपरीत 'रावणायन' लिख दे तो इसके अनेक स्थलों पर भारत के संस्कारी समाज का कवि की भावना के साथ विल्कुल भी तादात्म्य न हो सकेगा और न उसे रस की अलौकिक भावभूमि ही प्राप्त हो सकेगी। इसके विपरीत लंका के संस्कारी समाज का उन स्थलों पर कवि की भावना के साथ पूर्ण तादात्म्य हो सकेगा और उसे रस की अलौकिक भावभूमि भी प्राप्त हो सकेगी।

वस्तुतः इस तथ्य की अवहेलना की नहीं जा सकती कि कवि की मूलभावना (शास्त्रीय शब्दावली में आश्रय) के साथ कितने सामाजिकों की कहाँ तक पटरी बैठती है (तादात्म्य

होता है) । प्रान्तीय साहित्य, राष्ट्रीय साहित्य और विश्वसाहित्व का भेद आखिर इसी आधार पर तो मानना पड़ता है । यदि किसी कवि के संस्कार अधिकतर मानवजातीय या सार्व-भौमिक हैं तो वह संख्या में अधिक जन-समुदाय को अपने साथ लेकर चलेगा उसका साहित्य विश्व-साहित्य का उदाहरण होगा और वह स्वयं विश्वकवि कहलाने का अधिकारी होगा। यदि किसी कवि में मानव जाति के सर्वसाधारण संस्कारों की अपेक्षा राष्ट्रीय संस्कार अधिक होंगे तो उसके साहित्य में राष्ट्रीय लोगों के विचारों को समर्थन अधिक प्राप्त होगा इसलिये ऐसा कवि और उसका साहित्य प्रायः राष्ट्रीय कोटि में आएगा। उसी प्रकार जिस कवि के अधिकांश संस्कारों की सीमा प्रान्तीय या आंचलिक है उसका साहित्य भी अधिकतर प्रांतीय या आंचलिक माना जाएगा क्योंकि उसके साथ तादात्म्य प्रान्तीय अथवा आंचलिक जनता का ही अधिकतर होगा। एक ही मूल संस्कार को लेकर भी कवि और पाठक के बीच तादात्म्य में कुछ कसर रह जाती है। ऐसे स्थलों पर औचित्य और अनौचित्य की दृष्टि का ही भेद इसमें कारण होता है। सारांश यह है कि कवि का जितना और जैसा संस्कार है उतना और वैसा ही सब पाठकों का हो यह आवश्यक नहीं है। इसकी न्यूनाधिक और औचित्यानौचित्य की कोटियां हैं। तदनुसार साधारणीकरण की भी कोटियां हैं। इसीलिये नवीन और प्राचीन आचार्यों के अनुसार प्रान्तीय साहित्य, राष्ट्रीय साहित्य, रसाभास, भावाभास जैसी व्यवस्थाएं साहित्य में मान ली जाती हैं। क्या वाजपेयी जी इन सब बातों से सहमत नहीं हैं। विचार करने की बात है।

सूरदास का समय

—विश्वनाथ प्रसाद मिश्र—

सूरदास के समय के संबंध में जो आधार माने गए हैं वे 'सूरसारावलि' और 'साहित्यलहरी' पुस्तकों से संबद्ध हैं। सूरसारावलि और साहित्यलहरी ये दोनों ही पुस्तकें सूरदास की लिखी मानी जाती हैं। सबसे पहले सूरसारावलि पर विचार करना चाहिए। सूरसारावलि अथवा सूरसागर-सारावलि पोथी के अंत में यह लिखा हुआ है—

कर्मयोग पुनि ज्ञान उपासन सबही भ्रम भरमायो।
श्रीवल्लभ गुरु तत्त्व सुनायो लीलाभेद बतायो।
ता दिन ते हरिलीला गाई एक लक्ष पद बंद।
ताको सार सूरसारावलि गावत अति आनंद।

इससे यह पता चलता है कि श्रीवल्लभ गुरु ने किसी को तत्त्वज्ञान सुनाया और लीला का तत्त्व बतलाया। उस दिन से उसने एक लक्ष पदों में हरि की लीला गाई, जिसका सार यह सूरसारावलि है। इससे यह स्पष्ट नहीं होता कि सूरसारावलि के लिखनेवाले सूरदास ही थे। इसके आगे जो फलश्रुति लिखी गई है और जो पुष्पिका दी गई है उनसे यह कहा जा सकता है कि यह रचना सूरदास की है—

फलश्रुति—

तब बोले जगदीश जगतगुरु सुनो सूर मम गाथा
तू कृत मम यस जो गावैगो सदा रहैं मम साथा
खेलत यहि बिधि हरि होरी हो वेद विदित यह बात
धरि जिय नेम सूरसारावलि उत्तर दक्षिण कार
मनवांछित फल सबही पावें मिटे जन्म जंजाल
सीखै सुनै पढ़ै मन राखै लिखै परम चित लाय
ताके संग रहत हौं निसिदिन आनँद जन्म-बिहाय
सरस समतसर लीला गावें चरन युगल चित लावें
गर्भबास बंदीखाने में सूर बहुरि नहिं आवें

पुष्पिका—

इति श्रीसूरदासजी कृत संवत्सरलीला तथा सवा लाख पदों का सूचीपत्र समाप्त

सारावलि के आरंभ में 'सूर' के स्थान पर 'सूरज' शब्द छाप के रूप में प्रयुक्त है—

कीन्हें तत्व प्रकट तेही क्षन सबै अष्ट अरु बीस।
तिनके नाम कहत कबि सूरज निर्गुन सबके ईस।

सूरसागर में 'सूरज' नाम के पद मिलते हैं। भ्रमरगीत में 'सूरज' नाम के बहुत से पद आए हैं। उनकी रचना अच्छी रचना है, इसीलिए सूरदास की रचना में खप जाती

है। सूरदास वल्लभाचार्य जी के संप्रदाय में थे जिसमें वात्सल्यभाव प्रधान था। सूरसारावलि बनानेवाले जो कोई भी हों वे मधुर रस के अर्थात् कांतभाव के माननेवाले थे—

वृंदावन गोवर्धन कुंजन यमुना पुलिन सुदेश।
नितप्रति करत बिहार मधुररस श्यामाश्याम सुरेश।

जिस अंश के आधार पर लोग सूरदास की वय सारावलि की रचना के समय ६७ वर्ष की मानते हैं वह भी मधुर रस से ही संबद्ध है—

सगनकुंज में अमित केल लख तनु सुगन्ध रेल।
मधुकर निकट आय पीबत रस सुखद सदा रस झेल।
मलिन भये रस मानसरोवर मुनिजन मानसहंस।
थकित विलोकि शारदा वर्णन करिवे बहुत प्रशंस।
वृंदावन निजधाम परम रुचि वर्णन कियो बढाय।
व्यास पुराण सघन कुंजन में जब सनकादिक आय।
धीर समीर बहत त्यहि कानन बोलत मधुकर मोर।
प्रीतम प्रियावदन अवलोकत उठि उठि मिलत चकोर।
अमित एक उपमा अवलोकत जिय में परत विचार।
नहिं प्रवेश अज शिव गणेश पुनि कितक बात संसार।
सहस रूप बहुरूप रूप पुनि एक रूप पुनि दोय।
कुमुदकली विकसित अंबुज मिलि मधुकर भागी सोय।
नलिनपराग मेधमाधुरि सों मुकुलित अंब कदंब।
मुनिमन मधुप सदा रस लोभित सेवत अज शिव अंब।
गुरु प्रसाद होत यह दरशन **सरसठ बरष** प्रवीन।
शिवविधान तप करेउ बहुत दिन तऊ पार नहिं लीन॥

इसमें 'सरसठ' शब्द कैसे आ गया यही विचारणीय है, क्योंकि यहाँ ६७ संख्या का कोई महत्त्व नहीं है और यह अंश लिखनेवाले से संबद्ध हो ऐसा भी नहीं जान पड़ता। सूरसारावलि की अन्य कोई प्रति आज तक खोज में नहीं मिली जिससे इसका मिलान किया जा सके। अनुमान है कि 'सरसठ' शब्द मुद्रण-दोष से हिंदी-साहित्य के समालोचकों को चक्कर में डाले हुए है। यदि कोई संख्या ही यह हो तो भी ऐसी संख्या होनी चाहिए जो सामान्यतया ऐसे प्रसंगों में आती है। यदि ऐसा होता कि गुरु की कृपा से युगल मूर्ति के दर्शन अनेक वर्षों तक होते हैं तो यह माना जाता कि 'सरसठ' के स्थान 'सतसत' पाठ है। 'सरसठ' को यदि 'सरसत' मानें और उसका संख्यावाची अर्थ लें तो '१०५' अर्थ कुछ संगत निकलता है।

साहित्यलहरी पुस्तक में दो पद ऐसे हैं जिनके आधार पर सूरदास जी के समय का निर्णय किया जाता है। ये दोनों पद नीचे उद्धृत किए जाते हैं—

मुनि पुनि रसन के रस लेष।
दसन गौरीनंद को लिखि सुबल संबत पेष।

नंदनंदन मास छै ते हीन तृतिया बार ।
नंदनंदन जनम ते हैं बान सुखआगार ।
तृतिय ऋक्ष सुकर्म योग विचारि सूर नवीन ।
नंददननदास हित साहित्यलहरी कीन ॥

'मुनि' का 'सात', 'रसन' का 'एक', 'रस' का 'छह', 'दसन गौरीनंद' का एक अर्थ लेकर तथा 'अंकानाम् वामतो गतिः' से बाबू राधाकृष्णदास ने सं० १६०७(सं० १६१७) अर्थ लगाया है । 'नंदनंदन मास छै ते हीन तृतिया बार' का अर्थ वैशाख की अक्षय तृतीया लिया है । सारावलि के उक्त ६७ वर्ष को इसमें से घटाकर १५४० सूरदास का जन्मसंवत् माना गया है ।

'पुनि' के स्थान पर कुछ लोग 'सुनि' पाठ रखते हैं और उसका अर्थ 'शून्य' करते हैं। 'रसन के रस' को एक ही मानकर 'रसना के रस' का 'षड्रस' या 'छह रस' अर्थ लेते हैं और १६०७ निकालते हैं । इस पद में 'सूर नवीन' और 'नंदनंदनदास' दो पदों पर अधिक विचार करने की आवश्यकता है । जिन सूर ने साहित्यलहरी का निर्माण किया वे कोई 'नवीन सूर' हैं । उन्होंने नंदनंदनदास के लिए इस साहित्यलहरी का निर्माण किया । नंदनंदनदास व्यक्तिवाचक नाम है । नंदनंद अर्थात् श्रीकृष्ण के दासों के लिए साहित्य-लहरी का निर्माण किया गया हो ऐसा अर्थ प्रतीत नहीं होता ।

साहित्यलहरी में जिस प्रकार के दृष्टिकूटक आए हैं उस प्रकार के दृष्टिकूटक सूरसागर में एक भी नहीं मिलते । जिन्होंने साहित्यलहरी को सूरसागर के कर्ता सूरदास की कृति स्वीकार किया है उन्होंने यह कहा है कि इसका निर्माण सूरसागर के पूर्व हुआ है । साहित्य-लहरी यदि सूरदास की ही रचना होती और सूरसागर के पूर्व रची गई होती तो वैसा कोई न कोई दृष्टिकूटक सूरसागर में अवश्य संगृहीत हो गया होता । सूरसागर में न तो साहित्यलहरी के से कठिन दृष्टिकूटक हैं और न साहित्यलहरी का कोई दृष्टिकूटक उसमें आया है, इसलिए यह रचना सूरसागर के अनंतर हुई है । सब बातों पर ध्यान देने पर धारणा यही पुष्ट होती है कि यह प्रसिद्ध कवि सूरदास की रचना न होकर किसी दूसरे सूरदास की रचना है । इस पर तटस्थ दृष्टि से विचार करने की विशेष आवश्यकता प्रतीत होती है ।

साहित्यलहरी पर सरदार कवि की टीका है । ये सरदार कवि भारतेंदु बाबू हरिश्चंद्र के समसामयिक थे । भारतेंदु बाबू को सूरदास के वे दृष्टिकूटक जो सूरसागर में दिखाई पड़े बड़े अच्छे जान पड़े और उन्होंने घोषणा की कि सूरदास के और दृष्टिकूटकों का जो पता लगाएगा उसे पारितोषिक दिया जाएगा । सूरदास के दृष्टिकूटों का एक संग्रह उस समय 'सूरशतक' नाम से प्रकाशित हुआ था । इसके सभी दृष्टिकूट सूरसागर के हैं और सभी अपेक्षाकृत सरल हैं ।

किसी की यह जिज्ञासा हो सकती है कि जब सूरसागर में दृष्टिकूटक मिलते हैं तब यह संभव है कि सूरदास की विशेष अभिरुचि दृष्टिकूटक लिखने की रही हो, इसलिए

उन्होंने चाहे सूरसागर के पूर्व अथवा सूरसागर के निर्माण के अनंतर साहित्यलहरी की रचना की हो। स्वतंत्र रचना होने के कारण इसकी मिलावट सूरसागर में नहीं की। इस संबंध में इतना ही कहना पर्याप्त है कि दृष्टिकूटक की रचना करना काव्यप्रवाह प्राप्त है। सूरदास से बहुत पहले होनेवाले विद्यापति ने भी अपने पदों में कूट रखे हैं। इसलिए दृष्टिकूट लिखने को सूरदास की व्यक्तिगत विशेषता मानने की अपेक्षा काव्यरूढ़ि के रूप में ही ग्रहण करना चाहिए।

सूरसागर के अनेक हस्तलेख मिलते हैं। उनके भ्रमरगीत के भी बहुत से हस्तलेख मिलते हैं। पर साहित्यलहरी का कोई हस्तलेख खोज में आज तक प्राप्त नहीं हुआ। इसलिए यदि यह संभावना की जाय कि साहित्यलहरी का निर्माण बहुत बाद में हुआ है तो कोई विसंगति नही जान पड़ती। साहित्यलहरी में जिस प्रकार के दृष्टिकूट आए हैं उस प्रकार के दृष्टिकूटों की रचना एक तो सूरदास के लिए यों भी संभव नहीं, क्योंकि वे कीर्तन के लिए प्रतिदिन मुखाग्र रचना किया करते थे। मुखाग्र रचना करनेवाला ऐसे कठिन दृष्टिकूटक निर्मित नहीं कर सकता। दूसरे जैसी पच्चीकारी दृष्टिकूटकों में की गई है वैसी हिंदी के रीति-कवियों की विशेषता है, जिन्हें ऐसा कार्य करने का पूरा अवकाश था। इसलिए मेरा अनुमान है कि साहित्यलहरी का निर्माण या तो सरदार कवि के कुछ पहले हुआ या सरदार कवि के समय में ही हुआ। इस दृष्टि से विचार करने पर साहित्यलहरी का निर्माणकाल १९१७ जान पड़ता है। 'रस' का अर्थ 'नौ' लेना चाहिए। हिंदी के कवि 'रस' का अर्थ 'नौ' भी लेते रहे हैं। सरदार कवि का कविताकाल सं० १९०२ से १९४० तक माना गया है।

साहित्यलहरी में वह प्रसिद्ध पद भी आया हुआ है जिसमें सूरदास के पूर्वजों का उल्लेख है। पूरा पद नीचे उद्धृत किया जाता है—

प्रथम ही प्रथ जगाते में प्रगट अद्भुत रूप।
ब्रह्मराव विचारि ब्रह्मा राखु नाम अनूप।
पान पय देवी दियो शिव आदिसुर सुख पाय।
कह्या दुर्गा पुत्र तेरो भयो अति सुखदाय।
पार पायन सुरन के पितु सहित अस्तुति कीन।
तासु वंस प्रशंस में भौ चंद चार नवीन।
भूप पृथ्वीराज दीनो तिन्हें ज्वालादेश।
तनय ताके चार कीन्हों प्रथम आप नरेश।
दूसरे गुणचंद ता सुत शीलचंद सरूप।
वीरचंद प्रताप पूरण भयो अद्भुत रूप।
रंतभार हमीर भूपत संग खेलत आप।
तासु वंश अनूप भो हरचंद अति विख्यात।
आगरे रहि गोपचल में रह्यो ता सुत बीर।

पुत्र जनमे सात ताके महाभट गंभीर।
कृष्णचंद उदारचंद जो रूपचंद सुभाइ।
बुद्धचंद प्रकाश चौथो चंद भौ सुखदाइ।
देवचंदप्रबोध संसृति चंद ताको नाम।
भयो सप्तो नाम सूरजचंद मंद निकाम।
सो समरि करि साहि सेवक गए विधि के लोक।
रहो सूरजचंद दृग ते हीन भर वर शोक।
परी कूप पुकार काहू सुनी ना संसार।
सातए दिन आइ यदुपति कियो आप उधार।
दियो चख दै कही शिशु सुन माँग वर जो चाइ।
हौं कहौं प्रभुभगति चाहत शत्रुनाश सुभाइ।
दूसरो ना रूप देखों देखि राधा श्याम।
सुनत करुणासिंधु भाषी एवमस्तु सुदाम।
प्रबल दच्छिन विप्रकुल ते शत्रु हुइहैं नास।
अषिल बुद्धि विचारि विद्यामान माने मास।
नाम राखे मोर सूरज दास सूर सुश्याम।
भये अंतर्धान बीते पाछली निशि याम।
मोहि पन सो इहै ब्रज की बसे सुख चित थाप।
थपि गोसाईं करी मेरी आठ मध्ये छाप।
विप्र प्रथ जगात को है भाव भूर निकाम।
सूर है नंदनंद जू को लियो मोल गुलाम।

इस पद के दो प्रकार के अर्थ लगाए जाते हैं—एक इतिहास-संबंधी और दूसरा संप्रदाय-संबंधी। यह पद सबसे पहले साहित्यलहरी की सरदार कवि द्वारा की गई टीका में मिलता है। चंद का परिचय देते हुए नानूराम भाट ने नाममात्र के भेद से यही पद अपनी वंशावली के रूप में दिया है। मेरी धारणा है कि नानूराम ने साहित्यलहरी से ही इसे प्राप्त किया। जैसा पहले कहा जा चुका है कि साहित्यलहरी का निर्माण सरदार कवि के जीवनकाल के आसपास ही जान पड़ता है। यह भी हो सकता है कि उन्हीं लोगों ने यह कर्तृत्व दिखलाया हो। इस पद के संबंध में भी यही कहना है कि सरदार कवि ने सुनी सुनाई बातों के आधार पर इस पद की रचना की है। सरदार कवि के जीवनकाल के पूर्व किसी भी ग्रंथ में इस पद का कहीं भी उल्लेख नहीं मिला। इसलिए स पद का सांप्रदायिक (जिसे लोग 'आध्यात्मिक' कहते हैं) अर्थ करना युक्तिसंगत नहीं प्रतीत होता। सूरसागर की प्रति में जितने पद मिलते हैं उनमें कहीं 'सूर' कहीं 'सूरज' और कहीं 'सूर श्याम' शब्द दिखाई पड़ते हैं। जिन्हें छाप के रूप में प्रयुक्त किया गया है। किसी व्यक्ति ने इन विभेदों को दूर करने के लिए सुनी सुनाई बातों के आधार पर और बहुत कुछ अपनी कल्पना से जोड़कर इस पद का निर्माण किया है। 'नाम राखे मोर सूरज दास सूर सुस्याम' से यही बात प्रकट होती है।

ऊपर दिए हुए प्रमाणों से यह स्पष्ट हो जाता है कि सूरदास के समय के संबंध में जो आधार परंपरा में माने जाते रहे हैं उनकी नीवें बड़ी कच्ची है।

सूरसागर को ध्यानपूर्वक देखने से दिखाई पड़ता है कि इसके आरंभ में जो विनय के पद हैं उनमें श्रीकृष्ण की लीलाओं का विस्तार नहीं है। 'हरि' रूप में ही उनका स्मरण बारंबार किया गया है। इसके आधार पर यह कल्पना की गई है कि सूरदास पहले रमते साधु के रूप में भजन गाया करते थे। बाद में वल्लभाचार्य जी के प्रभाव में आकर श्रीकृष्ण-लीला के पद निर्मित किए और भागवत को आधार बनाकर चले। इसलिए इतना मानने में कोई बाधा नहीं है कि वल्लभाचार्य जी की शरण सूरदास ने वयस्क होने पर ली और आगे चलकर विट्ठलनाथ जी ने उन्हें अष्टछाप में सर्वप्रथम स्थान दिया। सूरदास के संबंध में अभी तक जितने अनुसंधान हुए हैं सभी में पुरानी बातों का ही अधिकतर पिष्टपेषण है। किसी ऐतिहासिक तत्त्व की नूतन उपलब्धि नहीं दिखाई पड़ती। यह गड्डुलिका-प्रवाह अवश्य दिखाई पड़ता है कि सूरदास के संबंध में जिन आधारों को स्वीकार किया गया है उन्हें सभी प्रायः ज्यों का त्यों कुछ थोड़े से तर्क देकर ही उपस्थित करते रहे हैं। इन आधारों की पूरी पूरी छानबीन होनी चाहिए। भारतवर्ष के कवि अपने जीवनवृत्त का विचार नहीं किया करते थे। हिंदी में कविवंश-वर्णन की प्रथा केशवदास की रचना में सर्वप्रथम मिलती है। इसलिए सूरदास के जन्म और मरण की तिथियों का निर्णय करने में शक्तिव्यय करने की कोई अनिवार्य आवश्यकता नहीं प्रतीत होती।

NATURE IN HINDI ROMANTIC POETRY

B. S. VYAS

"Art is re-enactment of the experience of reality" says Peacock in his 'Art of Drama'. He has tried to explain that the artistic creation is neither imitation, nor illusion, nor representation of the reality. Plato declared that art was twice removed from the reality. A carpenter's chair was once removed from the actual 'chair' the 'Idea' (eide) of the 'chair', while the painter's chair was twice removed from this particular 'chair'. Again morally and ethically art was a hopeless thing, it might lead to the downfall of Greek democratic institutions. As artists were producing unrealistic and desocialized creations, they were desired to quit the state. Aristotle was the first to uphold that 'art' was an important social item, and he proved the 'moral' and 'philosophical' utility of poetry and drama, which had a 'kathartic' function. It was he, who declared that the poet was imitating a reality, not as 'it is' but as 'it ought to be'. He laid down certain rules and formulae for the artistic literary creation, chiefly 'tragedia'. In fact, Plato though anti-poetic from his political and social out look,is the chief Grèek sponsor of Romantic revival of poetry in the nineteenth century Europe, and Aristotle the 'apostle' of classicism, who was always a guiding force to the formalist trend of Western Poetry. The ultra-modern classicist tendency, observed in Irving Babbitt, the teacher of T. S. Eliot, also owes its allegiance to Aristotle, as he himself remarks in the Introduction to his 'Rousseau and Romanticism' :

'The Aristotle that should specially concern us, however, is the positive and critical humanist-the Aristotle, let us say, of the 'Ethics' and 'Politics' and 'Poetics'. Just as I have called the point of view of the scientific and utilitarian, naturalistic Baconian, and that of the emotional naturalist Rousseaustic, so I would term the point of view that I am myself seeking to develop, Aristotelian'. (p. 13).

The whole subject is tied up with a particular viewpoint on the relation of subject and object, I-ness' and 'This-ness', self and the world. Is the object quite independent of the subject, or is it only an illusion, a mere representation of 'floating Ideas' in the Berkleyian terms, or is the perceptive experience actually a subject-object-relationship? These three views are known as 'Materialism', 'Idealism' and 'Positivism' respectively in the field of metaphysics and philosophy. We are here not concerned with their details and would be summing it up with this comment that the positivist outlook itself has a variety of view-points. The philosophy of romantic revival has been declared as 'emotional naturalist positivism', which derives its ethical and political individualistic outlook from the great political-philosopher Rousseau, and its metaphysic chiefly from Kant and also from Schopenhauer, 'the prince of the pessimists'. They, in later times with another philosopher Bergson and the Scientist Darwin, are the sponsors of that outlook, which is termed as 'modern'. The definition of 'modern outlook' is, to quote Babbitt', 'not only to be positive and critical, but also to be individualistic'. Firstly the modern spirit refuses 'to take things on authority', as the classicist proper, takes them, and secondly it lays stress on the individual, 'Every one is born free' as Rousseau remarks.

There is no clear demarcation between 'classic' and 'romantic' as such, and there are poets, though labelled as 'classicists' displaying 'romantic' attitudes like Kalidasa and Surdasa, and poets labelled as 'romanticists', exhibiting even 'classical' touches—Keats has been declared 'also a classicist', and Nirala displays a fondness for classical diction in many of his poems, while Prasada's poetry is interspersed too much with classical colour in the field of our Hindi Romantic poetry, termed as 'Chhayavada'. Actually the terms though important for 'professors and historians of literature', are of no much significance for a creative artist. Eliot has rightly remarked, 'Romanticism and classicism are not matters with which creative writers can afford to bother overmuch, or with which they do, as a rule, in practice greatly concern themselves'. Still to be precise in distinguishing them from each

other we may say that the 'classic' attaches importance to imitation of nature as found in ancient 'classics'—not the nature proper—, the decorum and elegance of form, purity and nobility of language, wit, conceit and also to diadacticism ; while the 'Romantic' freeing itself from all such fetters ; owes its allegiance chiefly to 'Imagination' and 'spontaneous overflow of powerful emotions'.

In fact the 'Imagination' plays the most impotant part in artistic creation. It is quite different from Wit and Fancy. Fancy though a raw material for 'imagination', is not the 'imagination' itself as understood by preromantic writers. Wordsworth and Coleridge laid stress on 'Imagination'. 'Fancy' is nothing but a mode of Memory and it has no creative vital force ; while 'Imagination' is creative and Coleridge divides it into two categories, primary and secondary—the primary imagination being the 'prime Agent of all human perception' and the repetition in the finite of the infinite 'I am', the secondary imagination is 'an echo of the former', which 'dissolves, diffuses, dissipates, in order to recreate'. The individualistic and subjective assertion in artistic creation is responsible for the eulogy of 'Imagination'. In fact, in preromantic criticism the word does not convey the same sense, as in the romantic criticism and we should not be perplexed if we donot find an equivalent term in our Sanskrit Literary Criticism. Indian critic has never emphasised the poetic creative process and he has specially limited himself to the poetic composition i.e. the poetic piece as such. It would not be out of place to hint that the study and researches of psychology have helped chiefly in unveiling the hidden activities of artistic creative process. Ancient Indian critics were confined to the distinction of 'Svabhabokti' and 'Prauḍhokti', and their later 'images' were either a set of pre-planned 'upmanas' and 'aprapastutas', or it linked up with farfetched conceits and wit, which was an intellectual process rather than an activity charged with feeling. This is quite clear from some of the figurative images of Bharavi, Magha, Mankha and Sriharsha. Hindi poets like Keshavadasa, also belong to this very group.

It would be clear from the above discussion that 'Imagination' has a direct relation with one's emotions and feelings. Even Acharya Shukla, while discussing the nature of figurative images in his famous essay "Rasātmaka-bodha ke vividha Rupa" hints at this very point.

"अप्रस्तुत की योजना के सम्बन्ध में वही बात समझना चाहिए जो प्रस्तुत के सम्बन्ध में हम कह आए हैं, अर्थात् उसकी योजना भी यदि भाव के संकेत पर होगी,...तब तो वह काव्य के प्रयोजन की होगी,...भाव की प्रेरणा से जो अप्रस्तुत लाए जाते हैं उनकी प्रभविष्णुता पर कवि की दृष्टि रहती है, इस बात पर रहती है कि इनके द्वारा भी वैसी ही भावना जगे जैसी प्रस्तुत के संबंध में है।"

In this very connection he has earlier analysed the process of Perception, Memory and Imagination. He assigns primary importance to actual perception of worldly things, charged with feeling which is the foundation of all memory and artistic images. Let us now see how Memory plays an important part in the process of 'Imagination'.

It is so said, that the approach of a scientist to 'Nature' or in other words 'Reality' is quite different from that of an artist. The scientist views it as it is from outside and he proceeds with an analytic compass, while an artist tries to be 'one' with the object itself and his approach is rather synthetic and rhythmic. He actually removes the outer veil of the object and tries to penetrate inside it, while feeling and experiencing the inner beauty of the object. The Scientist confines himself to the 'thing-in-itself', but the artist charges it with his own 'spirituality'. So an artistic experience is actually quite different from a normal perception, and to quote George Whally, this "paradeigmatic experience is the responsive feeling of naeked collision with reality ; an intimate penetration into, or immersion in, reality". (Poetic Process p. 31).

All our perceptual experiences store up in a particular state of our Mind called Memory. Psychologists have declared that all symbolic 'images' in dream, hallucination, and poetry, always emerge from this very store-house, which John Livingston Lowes terms as 'Well'. When our ancient Indian critic was talking of 'Vāsanatmatayā Sthita Ratyādi-bhāva' he was alluding

to this very process. But when they emerge, they are not the same as the outer reality, as they have undergone a sort of chemical process and they are interfused with different kinds of associations, and the emotions or feelings of the subject himself. 'Imagination' actually has got a double function in the creative process of an 'artefact', firstly it is an unconscious process following the perceptual experience of the actual object, and secondly it is a selective process of electing some of the 'images' from our Memory and modelling and fashioning them into brilliant rhythmic patterns i.e. painting, music, poems etc.

From this it follows that the creation of a poem is not a pre-planned process ; actually it is a rhythmic contact or collision of the subject and object condensed in 'Oneself', and so long as the rhythmic pattern continues, the poem is in a process and its finish itself is the sole criterion of its success or failure. The poetic process is a process of 'Withdrawal-and-Return' and when the poet returns subsequently to his 'social milieu' he comes with a poem. So long as he is in his composing mood his creative personality is disengaged and temporarily withdrawn from his 'social milieu'.

As an artist trasmutes his special kind of experience into a physical medium, he has to choose symbols for it. The poet, that's why, has to choose metaphor, symbol, music and rhythm to re-enact his experience. This is the reason why a natural description of an artist is not a photograph. "The more clearly and intensely an artist perceives, the less is he like a camera". The matter-of-fact Hindi poets always laid down a list of natural objects. An exhaustive list can be seen in Jyotirīshwar Thakkur's 'Varnaratnākara' and Keshavadāsa's 'Kavipriyā'. And as we come to our modern Hindi poetry, we see that the nature depicted by Hariaudh and Gupta is also either an echo of Sanskrit classical poetry, with set up figurative 'images', or just a caricature devoid of colour, odour and sonority. Their nature does not throb with the feeling of their own self, and their natural description like that of English poet Pope to quote Brook "was an artificial

trick, not a passionate record of feelings". A slightly polished attitude towards nature is seen in the so-called 'Swacchandatāvādi' poets Srīdhar Pāthak and Rāmanaresh Tripāthī. Though their nature is also not so lively, still they are a guiding force to direct Hindi poetry towards the actual beauties of nature. But I don't think they are 'romanticists' in proper sense of the term. Their position is like those of neo-classicists who were taking lively interests in real nature also, as opposed to their predecessors.

The Nature of Dwivedi-age poets was portrayed from a restricted disciplined attitude. It was also influenced by the moralizing spirit of Aryasamaj intellectualism and later on by Gandhian humanism. Though Hindi romatic poets have been too much influenced by Gandhian political philosphy; their naturalistic outlook was passionate and sensuous, which Aryasamaj and Gandhism both would despise. This 'sensuous' attitude towards nature was firstly due to the direct contact with naked nature as being observed in poets like Sumitrānandan Pant, and secondly an influence of 'naturalism' found in English poets Wordsworth, Byron, Keats and Shelley; ancient Indian poets Valmiki, Kalidasa and Bhavabhuti, and also in the poems of Ravindranatha Tagore. The modern philosophy of Aurbindo and the ancient Vedanta and Shaiva Pratyabhijna philosophies have also prepared a metaphysic for this 'naturalistic' tendency.

The literary romantic revolution was launched against the matter-of-fact poetry of Dwivedi age and in this aspect, it was laying down new poetic traditions in respect of content, form, diction etc. It had come with a new social outlook, a new philosophy of love, and a new naturalistic insight. The Dwivedi-age poet loved only 'man' and to him 'nature' was just a servant and subordinate to his wishes, while Chhayavadi poet was singing with the Muse of Byron:

I love not man the less, but nature more.

To him, nature was not an inanimate mass of clay, water, stones, leaves, stems and trunks; but his own self was seen reflected in it. It was his life long companion, his mate, his beloved.

He personified Nature. Pant actually declared 'Nature as his most intimate friend'. He loves every bit of Nature.

प्रिय मुझे विश्व यह सचराचर
तृण, तरु, पशु-पक्षी, नर सुर वर
सुन्दर अनादि शुभ-सृष्टि अमर। (पन्त)

Nature is an open book for him from where he can read the 'unity' of all 'diversity' in this world. To quote him,

"असंख्य कोटि के जीवों एवं मनुष्यों से युक्त-वन-उपवन, मरु-उर्वर, पर्वत-समुद्रों से निर्मित यह पृथ्वी समस्त विभिन्नताओं के रहते हुए भी एक है। (पन्त)

He actually inspects Nature from the angle of a primitive man full of surprise and inquisitiveness. This very inquisitiveness of Hindi romantic poet gives a mystic colour to some of his poems and this mystic and spiritual atmosphere can be observed specially in the Nature of Mahadevi, though Prasad and Nirala also display it and even some poems of Pant are not free from it. In fact he considered Nature as his preceptor, under whose feet he was learning the lessons of eternal love, philosophy and humanism. He had declared the following Wordsworthian lines as his motto:

And hark! how blithe the throstle sings,
He, too, is no mean preacher:
Come forth into the light of things,
Let Nature be your teacher.

Still the mirror of nature was upholding his own 'image', his own 'beauty' to him, and he was enchanted by it like the Mythological Narcissus falling in love with his own image reflected in the pool. All sorts of lovely and luminous attires in which the fairy of Nature stepped in before the poet, are just a hallucination, and 'imagination'. So long as the reader himself does not leave this worldly bond and does not enter that romantic 'ivory tower'; he is unable to appreciate these 'images' of romantic natural depiction. Through the medium of poem itself he will have to commune with the feelings of the poet and the triad of poet-poem-reader, and nothing else can testify to its success. As 'truly poetic response is one of pure pleasure' in C. Day Lewis's

dictum; our own sensuous, emotional and spiritual response can evaluate 'the truth' underlying therein.

Out of all Chhayavadi poets, Sumitranandan Pant is the foremost poet of 'Nature'. Like Wordsworth he can be termed as 'The poet of Nature', still his landscapes are more colourful with figurative 'imagery', with metaphors and symbols. As an artist he is more akin to Shelley, albeit he also displays some of Keatsian influence. His naive childlike inquisitiveness for the charm of Himalayan Valleys near his native town Almora has been a source of so many beautiful landscapes, so far unproduced in Hindi poetry. He is highly gifted with a keen sense of form, colour, sound and odour; the different aspects of the Beauty; and most of his early poems testify to this fact. The moonlight caressing the ripples of the river seems to him as if the silver snakes are playing in the waters.

'चांदी के सांपो-सी रलमल, नाचती रश्मियां जल में चल' (पन्त)

Here he has exhibited a keen aptitude for the sense of 'colour'. At another place in this very poem (Naukā-bihār) he views the crooked reflection of the tenth-day moon visible now and then in the Ganges, as the face of a newly married bride being displyed slowly through the veil:

लहरों के घूंघट से झुक झुक, दशमी का शशि निज तिर्यक् मुख,
दिखलाता मुग्धा-सा रुक-रुक (पन्त)

And to me this image of our romantic poet seems not inferior to the following Keatsian image.

"Or the coy moon, when in the weariness
of whitest clouds she does her beauty dress,
And staidly paces higher up, and higher
Like a sweet nun in holiday attire"

(To my Brother George)

Keatsian image is no doubt highly chaste and unpolluted like the nun itself; still the Pantian image is more enchanting and romantic.

To Pant the flowing springs and rivulets, the twinkling stars and glittering moonbeams, the smiling flowers and shivering

leaves, the colourful butterflies and humming bees, the dark clouds and pictursque rainbows, all are a source of joy, a celestial pleasure. He tries to establish complete intimacy with the birds welcoming the first approach of the Dawn, and with the bee sipping the sweet wine from the cup of a flower, and he sings with a superb ecstacy.

सिखादो ना हे मधुप कुमारि
मुझे भी ऐसा मीठा गान।
कुसुम के चुने कटोरों से
करा दो ना कुछ कुछ मधुपान ।।

The poetic images of Pant chosen for natural depiction are clear and flowery ; we don't find here obscurity and opaqueness, which is a characteristic of some of the Chhayavadi imagery'. His all 'figurative images' are charged with feelings and even a critic like Acharya Shukla has paid laurels to the Muse of Sri Pant, as his metaphors, similes and symbols always carry 'the similarity or analogy of impression' (prabhāva-sāmya).

Still Pant like Kalidāsa is only a poet of luxurious nature, and he takes less interest in Nature 'red in tooth and claws', which can be seen only in his long poem 'parivartan'. Here he visualises 'the process of eternal flux' as a huge hydra (Vāsuki) coiling the whole world in his clutches.

अहे वासुकि सहस्रफण !
लक्ष अलक्षित चरण तुम्हारे चिह्न निरंतर
छोड़ रहे हैं जग के विक्षत वक्षस्थल पर
शत शत फेनोच्छ्वसित स्फीत फूत्कार भयंकर
घुमा रहे हैं घनाकार जगती का अंबर
मृत्यु तुम्हारा गरल दंत कंचुक कल्पांतर
अखिल विश्व ही विवर
वक्र कुण्डल दिङमण्डल

(पन्त)

This is one of the most vivid images in Hindi poetry, though it has been influenced by a similar 'image' of Tagore used for Ocean in his poem 'Urvasi'.

तरंगित महासिंधु मंत्रश्रांत भुजंगेर-मत
पड़े छिल पद-प्रांते, उच्छ्वासित फणलक्ष शत करि अवनत

We now come to the most revolutionary personality of Hindi romantic poetry, which is more original, vivid and forceful than any of the poets of this trend. Nirālā actually epitomizes the whole romantic revolution in our history of Hindi poetry. His character is full of masculinity, vigour and energy and this is displayed in each line of his creation. He has introduced a new music, a new cadence in Hindi poetry so far unknown to Hindi world and his pictures are more vivid and vigourous. His 'image' of nocturnal darkness used for Rama's hair while returning from the battle field, covering his shoulders, arms and chest has become a 'classic' image in 'Chhayavada'.

दृढ़ जटामुकुट हो विपर्यस्त प्रतिलट से खुल
फैला पृष्ठ पर, बाहुओं पर, वक्ष पर विपुल
उतरा ज्यों दुर्गम पर्वत पर नैशांधकार
चमकती दूर ताराएँ ज्यों हों कहीं पार। (निराला)

Nirala's natural description is rather more subtle and suggestive than that of Pant. His 'juhī kī kalī' 'Sāndhyasundari' 'Yamunā ke prati' etc. are the finest pieces of our poetry. The first poem, composed in 'Vers libre' is one of the best poems Chhayavada has ever produced. To one who is a bit of a puritan it may appear voluptuous, but the real charm of the poem is the perception of life and vitality in the bud seen through the prism of 'Imagination' by our poet, who visualises the southern breeze caressing and embracing the bud as a lover playfully making love to his beloved.

निर्दय उस नायक ने
निपट निठुराई की
कि झोकों की झड़ियों से
सुंदर सुकुमार देह सारी झकझोर डाली,
मसल दिए गोरे कपोल गोल,
चौंक पड़ी युवती-चकित चितवन चित चारों ओर फेर,
हेर प्यारे को सेजपास, नम्रमुखी हँसी-खिली
खेल रंग, प्यारे संग।

(निराला: जूही की कली)

In an age of Dwivedian puritanism, it was a most daring effort to produce a figurative image of natural landscape like this.

Nirala not only symbolizes his feelings by metaphors and sir but his rhythm, cadence, repetition and alliteration are full of suggestion. He has a sharp ear for every subtle au unit and his sound sense is the acutest of all Hindi romantic p He is excessively fond of alliteration, of echoing words; sti alliteration is different from that of classical Hindi poets are fond of only consonantal alliteration; while Nirala is observer of the impression created by the combination of v harmony also in poems. His mature knowledge of ea (Indian) and Western music, has been really a great boor his Muse. It has been complained of his lyrics in 'Gitikā' the musical element therein eclipses poetry; still some of the l in that selection are fine examples of the word-choice and rhy as a suggestive medium of poet's feelings, as well as of the na landscape.

अमरण भर वरण-गान
वन वन उपवन उपवन
जागी छवि खुले प्राण।
× ×
मधुप निकर कलरव भर
गीति मुखर पिकप्रिय स्वर
स्मरशर हर केशर झर
मधुपूरित गंध ज्ञान॥ (गीतिका)

The unaspirated, nasal, sibilant and liquid consonants ch up here themselves create an atmosphere of the humming of bees, droping of pollen dust, and awakening of the Beaut Woods and Gardens at the approach of vernal season.

Next we come to the most sensuous poet of our rom: poetry—Srī Jayashanker Prasād. When I use the word 'sensu I am not using it in any derogatory sense. As Milton exclai "poetry should be sensuous, simple and im-passioned", sensu ness is a quality of poetry. Actually a poet is a worshi of Beauty and so he must be sensitive to form, colour, od sound, taste, and touch. In this sense, perhaps Prasād has a sh ness of all his senses and this he exhibits specially in his works 'Ansu', 'Kāmāyani' and some of his lyrics. His na

description always comes with a pictursque colourful image and specially the images of 'Dawn', 'bee drinking honey' and playful sportings of lovers are his most favourite ones. He is a clever artist, who always cares for the splendidness, luxuriousness and polish in his natural landscape. Prasād is full of aristocratic air, which always reminds one of pomp and show in his art and it is due to this aristocratic sensuousness that his 'images' are the most colourful ever produced in Hindi poetry. Still there is a speciality of his 'images'; they are highly subtle and suggestive and before we commune with the actual feelings of the poet, we shall have to have recourse to all his symbols—attributes, metaphors and actions (I mean, verbs)—which by a process of association always suggest something. Again Prasād is greatly fond of mixed metaphors, overlapping one another and thus adding to the complex pattern of his imagery. I here quote but one example of his landscape, where he describes the gushing forth of Dawn on the Eastern horizon like the Victory personified discharging her golden arrows and defeating the army of nocturnal darkness and thrusting it back to the watery regions; and where he further visualizes the spraying of morning twilight on the snow-capped mountain as the playful sporting of pollen dust on the white lotus.

उषा सुनहले तीर बरसती जयलक्ष्मी-सी उदित हुई।
उधर पराजित कालरात्रि भी जल में अन्तर्निहित हुई।।

× × ×

नव कोमल आलोक बिखरता हिम संसृति पर भर अनुराग।
सित सरोज पर क्रीड़ा करता जैसे मधुमय पिंग पराग।। (कामायना)

Prasād is deeply interested in a choice of light and sonorous words, which also help in creating the atmosphere of his lovely landscapes.

Before summing up this we must note that the romantic Hindi poets really created an aesthetic taste in the Hindi reader. The 'nature' of Dwivedi-age poet was only skeleton-like, these romantic poets remodelled it, iufusing not only flesh and blood but also a throbbing consciousness in it. All Chhayavadi poets are chiefly indebted to the above-mentioned artists in addition

to Mahadevi. Mahadevi, though a highly lyrical poetess, displays a monotony of theme; her notes always vibrating with the music of despair, pessimism, and tears. Her nature either exhibits deep longing for some unknown; or approaches clad up in a dim mystic attire. Variety of landscape is absent in her poems, and her images also are neither so clear as that of Pant, nor so vivid as that of Nirala, nor so colourful and sensuous as that of Prasad. Her images are rather pathetic and mystic, this at once being a quality and fault of her poetry. One example from her poems will suffice.

सघन वेदना के तम में, सुधि जाती मुख सोने के कण भर,
सुरधनु नव रचतीं निश्वासे, स्मित का न भीगे अधरों पर,
आज आँसुओं के कोषों पर
स्वप्न बने पहरे वाले हैं !
अलि क्या प्रिय आने वाले हैं ?

Mahadevi has visualised her own pathetic self in the various functions of nature. In the above-quoted piece she has chosen the image of Dawn pouring down the grains of gold inside the noctural darkness, portraying the rain-bows on the dewy lips of nature by sunrays and she conjectures as if the unknown lover is just about to arrive. It would not be out of place to hint that Mahadevi's Nature never comes as Nature-itself, but all her images are only metaphoric and symbolic of her own mental self and feeling. In this very example, these images are employed only to suggest that when the Memory (Dawn) awakes up, the darkness of pain in the heart is sprayed by the rays of hope and pleasure and the lips blush forth with a colourful smile, the tears for a time being are checked up by the lovely dreams watching over their treasure. This too much symbolizing of Nature makes her natural landscapes somewhat obscure and opaque and the reader does not smell that odour in her Muse as in the other three poets.

The Romanticist's attitude towards nature has been criticized on the score of its being far far away from the reality;—an imaginary Nature of 'the Ivory Tower'. Prof. Babbitt has described this romantic attitude with its inherent flaws.

'The nature over which Rousseauist is bent in such rapt contemplation plays the part of the pool in the legend of Narcissus. It renders back to him his own image. He sees in nature what he himself has put there. The Rousseauist transfuses himself into nature in much the same way that Pygmalion transfuses himself into his statue. Nature is dead, as Rousseau says, unless animated by the fires of love". (Rousseau and Romanticism).

Still the credit for uplifting poetry from simple prose for clad up in verse, goes to Chhayavadi poet. He is mainly responsible for the refinment of taste in the Hindi reader. This would be more clear, from extracted the three parallel landscapes of Evening from Hariaudha, Nirala and Prasād respectively, where the first landscape is only a bare sketch without any colour of feeling, while the other two are interfused with the intense feelings of the artists themselves suggested through the picturesque images therein.

(१) दिवस का अवसान समीप था गगन था कुछ लोहित हो चला।
तरु शिखा पर थी अब राजती कमलिनी कुलवल्लभ का प्रभा ।।

(हरिऔध)

(२) दिवसावसान का समय
मेघमय आसमान से उतर रही है
वह संध्या-सुंदरी परी-सी
धीरे धीरे धीरे
तिमिरांचल में चंचलता का नहीं कहीं आभास,
मधुर मधुर है दोनों उसके अधर—
किन्तु जरा गंभीर—नहीं है उनमें हास विलास

(निराला : संध्यासुन्दरी)

(३) निर्जन जलधि-वेला रागमयी सन्ध्या से-
सीखती थी सौरभ से भरी रंग-रलियां।
दूरागत वंशी-रव–
गूँजता था धीवरों की छोटी छोटी नावों से,
मेरे उस यौवन के मालती-मुकुल में
रंध्र खोजती थीं, रजनी की नीली किरणें

(प्रसाद : प्रलय की छाया)

The first example does not convey any picture except a few lines of trees and evening rays; while the second presents a full picture of the Beauty of Evening slowly stepping down

from the vast high skies, with her attire so well adjusted as not to fly with the wind; her sweet lips still preserving slight soberness. The third picture is more colourful with the sketching of the Western sea-beach blushing forth with the reddish evening twilight as a lady blushing with the sportings of her lovable lady friend. It also presents a picture of fishers pouring their feelings in their notes of lutes coming from far off small boats on the sea, and a further picture of light rays of darkness trying to penetrate by and by into the bud of this universe. Again the last picture is interfused with the emotions and feelings, of Kamaladevi herself, as if rays of some unknown feelings (i.e. love) were trying to penetrate into the bud of her youth.

It was against Narcissism that post-chhayavadi Hindi poet has launched a revolt. Too much of emotionalism and sentimentalism was now despised by the new poet and he tried to commune with the reality of Nature. This is the reason why the Nature of some of the 'Saptak Poets' is simple, plain and still luminous. Romantic attitude is no doubt seen in many a 'Saptak poets', still I have used the attribute 'romantic' only for chhayavada in this note and I would refrain from including these poets who are actually Realistic Romanticists. The images of these new poets have an odour of familiarity, which is absent in the Chhayavadi poet. A new poet Govind Vyas, visualises patches of white clouds floating in air as pigeons on their white wings, in the following lines from one of his posthumous poems.

नभ से उड़ते मेघ-कबूतर
श्वेत श्वेत पंखों से फर फर।
कभी मंद गति उड़ते मंथर
कभी दौड़ते चंचल द्रुततर
विविध कलाबाजी दिखलाते
झूल झूल कर पवन-दोल पर ॥

This attitude of familiar 'Images' can be seen in the natural paintings of Girijā Kumār Mathur, Harinārāyan Vyās, Naresh and Dharmavir Bhārati. Naresh has no doubt exhibited an aptitude for far-fetched conceits in his 'Samaya-devatā', but his lyrics are free from this fault. An influence of Imagist school and

Freudian Dream symbolism is responsible for some of the psychological obscure images of 'New Hindi Poetry' and it is one of the reason why the whole lot of 'New poetry' has become a synonym for obscurity and opaqueness. I donot have any objection that thought element experienced as a feeling should find its vent in poems ; still it should try to keep up the quality of communicability. So long as poet's conceits are remarkably brilliant, like the following one of C. Day Lewis, I have nothing to grudge.

'Admiral earth breaks out his colours
Bright at the forepeak of the day'.

(Lewis)

THE "KALEVALA," THE RATIONAL EPIC OF FINNS

UNTO TÄHTINEN, (Helsinki)

A constant and rital source of inspiration for the Finns—for their world-renowned composer, Jean Sibelius, and also painters of national romantic temper —is provided by the Kalevala, the national epic of Finland. Folk-poetry was previously recited by old men, two sitting together on a bench. They faced each other, clasped hands, and rocked back and forth rhythmically. It was not until 1835 Elias Lānnroth, a country doctor who with much interest and self-sacrifice walked bare-foot through the most remote villages of Karjala (Karelia) in Eastern Finland, and of Ita-Karjala (East-Karelia) which belongs to Russia. He noted down the rich, almost-forgotten store of folk-literature, enlarged his collection in 1849 and edited the Kalevala in its present length of 22.795 lines.

The word 'Kalevala' means 'the home of the Kaleva (Finns)'. The poem reached on the lips of rune-singers its present form about the 11th century A.D. the earlier parts are rooted in old pre-christian history or the mythology of the Viking-time. The last of its 50 runes describes most possibly the advent of Christianity and the retreat of Väinämöinen, the immortal sage who bequeathes his song and Kantele (a stringed instrument) to his people. This might have happened as late as on the 14th century when Christianity finally conquered paganism.

The first rune describes the origin of the world. Ilmatar, the Virgin of the Air, descends into the ocean. Impregnated by the winds she becomes the Mother of the waters. An eagle builds her nest on Ilmatar's knee which rises above the water. In the nest eggs are laid. From the eggs the earth, sky, sun and moon, take birth. Väinämöinen, the great seer is also born from the Mother of the Waters. The second rune tells us how

Väinämöinen accompanied by his companion Sampsa Pellervoinen begins to sow trees and barley. He worships UKKO, the supreme God. This creation story seems to be analogical to many other myths describing the Divine Spirit brooding on the see of Chaos ; out of it the Mundane Egg arises or is made.

The main story centers round a battle between Kaleva, the land of Finns, representing light, and Pohjola, a country in the remote North which may be historically identified as Lappi (Lappland) . The Kalevala is an epic of this fight between good and evil. Alike most other national epics it is not fought by weapons but by the might of song. A largely mythical battle it has an admixture of tales and incidents from life, like tales of love, marriage, feast, death. There are also vivid descriptions of nature. The art of different crafts is fully described. So are manners, the ceremony of hospitality, habits of personal cleanliness of the sauna (a steam-bath which is still used by every Finn on Saturday-night). Kantele, the national musical instrument, has its place. When Väinämöinen sings, not only men, but animals like wolves and bears come to listen in peace and concord.

A much discussed story is that of the Sampo. Ilmarinen, a skillful blacksmith, forged it. On one side it had a corn-mill, on another a salt-mill, and above both a coin-mill. It was a magic talisman. It could be made from materials which only Louhi, the mighty witch, possessed. She lived in the dark Pohjola. To get the ingredients again seems to have been impossible. They are given as the tips of a swan's white wing-feathers, the milk of barren heifer, a single grain of barley, and a single strand of an ewe's fleece. The reward for the skillful Ilmarinen is said to be the daughter of Louhi, who was however, witheld from him. The Sampo is set in Pohjola beneath a copper mountain behind nine locks. All the heroes of Kaleva attempt to fetch it therefrom. With the aid of the mighty songs of Väinämöinen they almost succeed. Yet in the final conflict on the sea the miraculous mill is broken. Pieces of it are washed up on shores bringing blessings to all people and all nations, good and bad, even Louhi gets

the cover of it—It is not known what the Sampo signifies. Some think that it is the symbol of the sun.

The third hero of the Kalevala is Lemminkāinen, a reckless adventurer. He woos the daughter of Louhi, and she gives him three tasks to perform. He has to catch the Elk of Hiisi (the Evil Power) on skies, to bridle the fire-breathing steed of Hiisi, and to shoot the swan of the river of Tuonela or Manala, which is the realm of death. He succeeds in the first two tasks but is slain in the course of the third task by Märkähattu (Wet-hat); the disguised cowherd casts him in pieces to the river of death. Lemminkäinen's mother hears of it rushes to the river of Tuonela, and collects the pieces of her son's body. She joins them together and restores his son to life with her motherly love and magical charms.

All the characters of the epic are distinctly portrayed. There is Joukahainen, a young Laplander, who with his superficial knowledte, tries proudly to challenge the old Vāināmöinen in a duel of wisdom but is defeated. And there is the chaste maiden, Aino, sister of Joukahainen, who prefers to throw herself into a lake and be turned into a fish, rather than marry the old Vāinā-möiness as arranged by her brother.

A rather separate story is that of Kullervo who is given as a servant but breaks his chains and retaliates in a violent manner, and even unknowingly defiles his sister who kills herself. Kulle-rvo's tragedy ends by suicide.

The gods and goddesses of nature are personified, as Ahto, the God of the Sea, Kalma or Surma who is death, Kankahatar, the goddess of Weaving, Pakkanen, the personified Frost, etc.

The end of the epic relates how the Virgin Marjatta swallows a cranberry and brings forth a miraculous boy who is baptized as the King of Karelia. The seer Vāināmöinen, old and steadfast, surrenders his place to the newly born child (Christ). In the last song he describes rather a nationalistic ideal resembling

Gandhian Philosophy of Swadeshi. He has never learned foreign words, he says, never travelled to distant countries, but always helped his mother at home learning art, craft and spinning. Vāinā-mőinen promises to come back as he departs, to come at a time when he is required again.

"But let this be as it may be,
I have shown the way to singers,
Showed the way, and broke the tree-tops,
Cut the trancles, shown the pathways,
Widely open for the singers,
And for greater ballad singers,
For the young, who now are growing,
For the rising generation".

These are the concluding words of the epic. The Kalevala has been translated into more than 19 languages though the translations do not give full justice to its Finish poetic form.[1] Its metre is trochaic and enriched by alliteration, as, for instance, Vaka, vanha Vāināmöinen (Vāināmöinen, old and steadfast) where the words all begin with va-. Every line is echoed by a second line bearing the same meaning but worded differently making use of alliteration. The Finnish language is rich in vowels. The grammer is rather a complicated one and perhaps the most difficult in the world. There are 14 cases and personal pronouns are indicated also by endings.

The Kalevala is nowadays unfortunately not sung as in former times. Bookish knowledge has replaced the ancient runes people know by heart. But they are still read in every school and recited on numerous occasions. It is often said that Finland passesses a world-record in the amount of poetry recited. Also there are possibly more amateur theatrical clubs than anywhere else. The tradition of the Kalevala is thus carried on. It is still a living tradition.

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[1] Into English it has been translated by W. F. Kirby and oblished in Everyman's Library No. 259-60 by J. M. Dent & Sons Ltd., (London), first edition 1907, last rejoint 1951.

Glossary of Finnish words and their pronunciation in Devnagari

Ahto अह्तो the God of the Sea

Aino अइनो sister of Joukahainen

Hiisi हीसि the Evil Spirit

Llmarinen इल्मरिनेन् (Ilma=air) skillful blacksmith with creative power.

Ilmatar इल्मतर् the Virgin of the Air

Joukahainen योउकहइनेन a young Laplander

Kalevala कलेवल, the land of Kaleva, identical with Suomi सुओमि (Finland)

Kalma कल्म or Surma सुर्म, the God of Death

Kankahatar कन्कहतर् (kangas=cloth), the Goddess of Weaving

Kantetle कन्तेले a triangular stringed musical instrument

Karjala कर्यल Eastern part of Finland, since second world-war included into U.S.S.R., people migrated as refugees to other parts of Finland.

Kullervo कुल्लेर्वो a tragir hero of Kalevala

Lemminkäinen लेम्मिन्कैनेन् Donfuan of Kalevala, has provocative nature and is easily raged

Lönnroth, Elias लोन्रूत् एलिअस् a medical doctor, latter the professor to Finish Language at the Helsinki University. 1802-84.

Louhi लोउहि the mistress of dark Pohjola

Marjatta मर्यत्त virgin who gave issue to the kind of Karelia (Christ)

Mārkähattu मैर्कैहत्तु the guardian of the river of Death

Pakkanen पक्कनेन् the personified Frost

Pohjola पोह्योल the land of the North

Sampo सम्पो a magic mill to produce corn, salt and coins

Sanpsa Pellervoinen सम्प्स पेल्लेर्वोइनेन् (Pelto=field) the assisttent of Väinämöinen in planting first trees and barley

Sauna सौन the Finish steam-bath still in use everywhere in Finland.

Tuonela तुओनेल or Manala मनल realm of death, Hades

Ukko उक्को or Jumala युमल the Supreme God

Väinämöinen वैनैमोइनेन् the great seer

INTELLIGENCE SCORES AND THE BIRTH-ORDER OF CHILDREN[1]

S. JALOTA

There are many families with more than one child. In each of them a comparison of their abilities is attempted either in a rough and ready manner, or with some more or less scientific pretensions.[2] There is a considerable probability of actual differences in the inheritance of the siblings. The studies of placental and fraternal twins have helped to confirm the above hypotheses, on the basis of both physical as well as mental measurements.

The emotional differences, rather the development of attitudinal differences in their adjustment to life has been notably related with the birth-order in the discussions of Adler. He finds the younger child struggling in an environment which is different in an important respect from that of the first-born child. No doubt the sex of the child and the cultural background of the family also play an important part. For instance, even in the male-dominated culture of the Pubjab, the first-born daugher is bid a partial utilitarian welcome in the saying: "Dhī hoī p' leṭhī dī, te sabbe kamma sametegī". (The first-born daughter will be able to finish all the tasks).

II

Our problem was to study the intelligence of school-going children by means of a spiral omnibus type verbal group test of mental ability in Hindi. A research student, Mr. S. K. D. Pande did one study with our test No. 3/51, during March-April 1951. Among other personal information he asked these two questions: (1) How many brothers and sisters are you? (Ăpa kitne bhāi bahin haiṇ?). (2) How many of them are older than you? (Una meṇ se kitne āpa se bare haiṇ?). An analysis of the replies of some 200 students of 11+ indicated that the third child has

[1] This MSS was received in 1953.—Ed.

[2] Cohen, F.—Psychological characteristics of the second child as compared with the first, *Ind. J. Psychol.*, 1951, XXVI, 79—84.
Krishanan, B.—Order of birth and temperament, *Op. Cit.*, 85-88

on the average a higher score than the first two. The results are given in Table I :—

Birth Order Position (I to VI+) in the Family

Age*	I	N	II	N	III	N
11	29.0	4	29.2	8	38.7	4
12	29.0	13	35.4	8	59.5	4
13	42.9	10	39.3	11	35.2	5
14	34.0	7	39.2	6	45.0	4
15	36.4	10	38.7	11	37.2	6
16	45.6	3	42.7	3	44.2	5
Age*	**IV**	**N**	**V**	**N**	**VI+**	**N**
11	35.0	1	18.0	1	34.0	2
12	32.9	8	52.2	2	63.0	1
13	24.5	2	30.0	1	38.0	2
14	26.7	6	36.3	3	51.0	1
15	32.2	5	38.3	3	54.0	1
16	69.5	2	28.0	1	13.0	1

(* = 11 years includes 10 yrs 6 months to 11 yrs 5 months.)
(N = Number)

We had thought only of the first and the second born child. The significance of the third child was so intriguing that we decided to investigate it further in another standardisation study of the Revised Hindi test 4/51, during October-November 1951. This test was given to some 1300 school going students of the higher secondary classes. The results obtained from 883 students of 13 years and above are given in Table no II below :—

Birth Order Position (I to VI+) in the Family

Age*	I	N	II	N	III	N
13	30.0	47	33.5	40	37.0	19
14	36.3	64	40.9	33	41.0	35
15	47.0	69	45.1	56	49.0	38
16	44.1	60	46.5	44	49.2	27
17	45.6	47	45.8	27	45.7	23
Age*	**IV**	**N**	**V**	**N**	**VI+**	**N**
13	37.0	12	32.5	13	35.7	27
14	40.5	28	38.9	12	41.5	16
15	46.8	25	47.8	20	43.8	22
16	44.4	19	39.5	11	42.6	16
17	43.3	12	38.7	13	45.1	8

(*13 = 12 yrs. 6 mos. to 13 yrs. 5 mos.) (N = Number)

III

The general average scores for the different birth-order positions in the family are as follows:

	Score	N
First born	41.03	287
Second ,,	42.49	200
Third ,,	44.92	142
Fourth ,,	42.86	96
Fifth ,,	40.29	69
Sixth ,,+	40.83	89
		883

(a) We find from Table II that in all age-groups from 13 to 16 years the *third* child is uniformly better on the average than the others. The consistency of these results is too striking to be due to the mere accident of our sample. We also find that the *second* child has a certain advantage over the *first*. Our results do not justify the pride of Cain or the practice of primogeniture. However we hesitate to suggest that the practice of 'family limitation' should include a minimum range of three, as the demographic problem is dominated by economic considerations and not those of intelligence.

(b) In the age-group of 17 years, we find that the first three children obtain on the average the same scores. It may mean that after attaining adolescence the superiority in the average intelligence score of the third child is usually overhauled by the first-born and the second-born ones. It is more likely however that the conditions which operate upto adolescence in urging the younger childeren seem to lose their force later on in our present cultural set-up.

(c) Other interesting facts can be noticed, if we compare the average scores of children in the different birth-orders, as they progress from year to year: The *first-born* children appear to make the biggest progress of 10.7 points from the year 14 to 15. The *second-born* make a modest progress of only 4.2 points during

the said period ; but they record an earlier progress of 7.4 points in passing from 13 to 14 years. On the other hand, the *third-born* make the modest progress of 4 points from 13 to 14 years, but they make a double progress of 8. points while growing from 14 to 15 years. This may induce the venturesome to hazard a guess that there is a differential rate of progress and a different pattern of development for the children that is consequent on their status in the birth-order.

We have not attempted any statistical measures of confidence about these differences, mainly as special experimental results with specially selected comparative groups alone can yield valid and reliable results. Any such attempt on the basis of this study would be doing more a homage to statistics than to the advancement of the science of psychology. On the treatment of our test-scores we can say that our group is largely an unselected sample of a normally distributed school-going population. However, we do feel that the consistency of our results is highly suggestive, and we trust that it will provoke other workers to investigate along similar lines.

THE HINDU WARRIOR-KING MUCHUKUNDA

From the Bhāgavata, as retoled by Joseph Campbell[1]

A moving tale is told of an ancient Hindu warrior-king named Muchukunda. He was born from his father's left side, the father having swallowed by mistake afertility potion that the Brahmins had prepared for his wife[2]; and in keeping with the promising symbolism of this miracle, the motherless marvel, fruit of the male womb, grew to be such a king among kings that when the gods, at one period, were suffering defeat in their perpetual contest with the demons, they called upon him for help. He assisted them to a mighty victory, and they, in their divine pleasure, granted him the realization of his highest wish. But what should such a king, himself almost omnipotent, desire? What greatest boon of boons could be conceived of by such a master among men? King Muchukunda, so runs the story, was very tired after his battle: all he asked was that he might be granted a sleep without end, and that any person chancing to arouse him should be burned to a crisp by the first glance of his eye.

The boon was bestowed. In a cavern chamber, deep within the womb of a mountain, King Muchukunda retired to sleep, and there slumbered through the revolving eons. Individuals, peoples, civilizations, world ages, came into being out of the void and dropped back into it again, while the old king, in his state of subconscious blis, endured. Timeless as the Freudian unconscious beneath the dramatic time world of our fluctuating ego-experience that old mountain man, the drinker of deep sleep, lived on and on.

His awakening came—but with a surprising turn that throws into new perspective the whole problem of the hero-circuit, as

[1] The Hero with a Thousand Faces, Bollingenseries, pp. 193-196.

[2] This detail is rationalization of rebirth from the hermapnrooitic, initiating father.

well as the mystery of a mighty king's request for sleep as the highest conceivable boon.

Vishnu, the Lord of the world, had become incarnate in the person of a beautiful youth named Krishna, who having saved the land of India from a tyrannical race of demons, had assumed the throne. And he had been ruling in Utopian peace, when a norde of barbarians suddenly invaded from the northwest. Krishna the king went against them, but in keeping with his divine nature, won the victory playfully, by a simple ruse. Unarmed and garlanded with lotuses, he came out of his stronghold and tempted the enemy king to pursue and catch him, then dodged into a cave. When the barbarian followed. he discovered someone lying there in the chamber, asleep.

"Oh :" thought he. "So he has lured me here and now feigns to be a harmless sleeper".

He kicked the figure lying on the ground before him, and it stirred. It was king Muchukunda. The figure rose, and the eyes that had been closed for unnumbered cycles of creation, world history, and dissolution, opened slowly to the light. The first glance that went forth struck the enemy king, who burst into a torch of flame and was reduced immediately to a smoking heap of ash. Muchukunda turned, and the second glance struck the garlanded, beautiful youth, whom the awakened old king straightway recognized by his radiance as an incarnation of God. And Muchukunda bowed before his Savior with the following prayer :

"My Lord God : When I lived and wrought as a man, I lived and wrought-straying restlessly ; through many lives, birth after birth, I sought and suffered, nowhere knowing cease or rest. Distress I mistook for joy. Mirages appearing over the desert I mistook for refreshing waters. Delights I grasped, and what I obtained was misery. Kingly power and earthly possession, riches and might, friends and sons, wife and followers everything that lures the senses : I wanted them all, because I believed that these would bring me beatitude. But the moment

anything was mine it changed its nature, and became as a burning fire.

"Then I found my way into the company of the gods, and they welcomed me as a companion. But where, still, surcease? Where rest? The creatures of this world, gods included, all are tricked, my Lord God, by your playful ruses; that is why they continue in their futile round of birth, life agony, old age, and death. Between lives, they confront the lord of the dead and are forced to endure hells of every degree of pitiless pain. And it all comes from you.

"My Lord God, deluded by your playful ruses, I too was a prey of the world, wandering in alabyrinth of error, netted in the meshes of ego-consciousness. Now, therefore, I take refuge in your Presence—the boundless, the adorable-desiring only freedom from it all".

When Muckukunda stepped from his cave, he saw that men, since his departure, had become reduced in stature. He was a giant among them. And so he departed from them again, retreated to the highest mountains, and there dedicated himself to the ascetic practices that should finally release him from his last attachment to the forms of being.[1]

Muchukunda, in other words, instead of returning, decided to retreat one degree still further from the world. And who shall say that his decision was altogether without reason?

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[1] Vishnu Purana, 20; Bhagavata Purana, 10, 51; Harivansha 114. The above is bassed on the rendering by Heinrich Zimmer, Maya, der indische Mythos (Stuttgart and Berlin, 1936), pp. 89-99.

Compare with Krishna, as the world Magician the African Edrican Edshu (pp. 44-45, Supra). Compare, also, the Polynesian trickster, Maui.

ईश्वर

राधेश्याम शर्मा 'प्रगल्भ'

(१)

ईश्वर एक बहुत बड़ा परीक्षक है,
हम सब परीक्षार्थी।
जीवन वह उत्तर-पुस्तिका—
जिस पर हमको प्रश्न-पत्र हल करना है।
और यह भुवन, वह भवन
जहाँ हम सब बैठे हैं इम्तहान देने को।
प्रश्न-पत्र बट चुका है···
तीन घंटे का समय है।
पहला घंटा बचपन बीत जाने पर बजता है।
दूसरा जवानी ख़त्म होने पर,
तीसरा बुढ़ापे के बाद,
काल का चपरासी मौत का बजाता है।
परीक्षा समाप्त होती है,
कापी छिन जाती है।
इसलिए लिख डालो
जो कुछ भी लिखना है।
इधर-उधर बहको मत,
मत करो चेष्टा
बहकाने की अपने परीक्षक को।
अनगल बातें लिखने से
कापी ही भर दोग।
अंक नहीं पाओगे।
समय के मूल्य को जानो।
कहीं ऐसा न हो—
कि आख़ीरी घंटा वह बज जाए,
ओ, कापी छिन जाए,
कहते तुम रह जाओ—
'याद तो था,
प्रश्न-पत्र लम्बा था,
टाइम था कम,
लिखने से रह गया।'
इस परीक्षा का वह एकाकी परीक्षक है।
वही व्यवस्थापक औ वही निरीक्षक है।
दूर से बैठा-बैठा देखता है—
कौन नकल करता है।
उसका दूत जब आकर कापी छीनेगा,
कहेगा साथ चलन को।
क्योंकि
हमारा परीक्षक हमारी उत्तर-पुस्तिका
हमारे सामने ही जांचेगा।
उसमें जब अशुद्धियाँ निकलेंगी,
उसके दरबार में जो बैठे होंगे लोग
उँगलियाँ उठाएँगे।
हम शर्म से गरदन झुकाएँगे।
मगर शर्म से गरदन झुकाने से—
या फिर इस बहाने से—
'याद तो था, लिख न सके कारणवश।'
काम न चल पाएगा।
ग़लती की सज़ा तो मिलेगी ही।
हो सकता है—
एक एक गलती को वह
दो-दो तीन-तीन बार सुधरवा कर लिखवाए।
और यदि प्राप्त प्राप्तांक भी न कर पाए।
फ़ेल हो जाओगे,
फिर वापिस आओगे,
इसी परीक्षा के देने को।
और, जो पास हो जाएँगे,
परम पद पाएँगे,
लौट कर न आएँगे।

(२)

ईश्वर एक बहुत बड़ा दूकानदार है।
यह लम्बी-चौड़ी दुनिया उसकी दूकान,
हम सब ख़रीदार,

साँस का सिक्का हमारे पास है।
इस दूकान पर हर तरह की चीज बिकती है।
अच्छी भी बुरी भी,
छोटी भी बड़ी भी।
और,
कोई कोई चीज तो यहाँ ऐसी है
जिसे हमारी सारी पूँजी भी खरीदने में
कम है।
हम में से बहुत से इस दूकान से
अपनी पूँजी से
बस दाल-आटा ही खरीद पाते हैं।
कुछ, कुछ आराम के साधन जुटा पाते हैं।
मगर कोई कोई तो हममें ऐसे हैं-
जो अनमोल सिक्का खरचते हैं,
रोग मोल लेते हैं।
और जब रोगी हो जाते हैं,
शेष पूँजी को लेकर
हकीम वैद्य या डाक्टर के पास जाते हैं।
यानी,
मुल्ला' पंडित या पादरी का द्वार खटखटाते हैं।
नुस्ख़ा बनवाते हैं।
और वे हकीम, वैद्य या डाक्टर,
बतलाते हैं औषधि उन्हें
जापे की, छापे की,
माला की, तिलक की,
मंदिर और मस्जिद की।
वे उन कड़वी-चिरायते-सी औषधियों को
पीते भी हैं,
मगर परहेज बिगड़ जाता है,
इसलिए रोग असाध्य हो जाता है।
इसलिए ऐ दोस्त!
उन से ही कहता हूँ—
जो अभी-अभी इस दूकान पर आए हैं
कि वही खरीदो
जो कुछ भी अच्छा हो
सच्चा हो।
जिसे खरीद कर
कह सको डंके की चोट—
पैसे में दो पैसे का माल लेकर आए हैं।

(३)

ईश्वर दाता तो है,
मगर दानी नहीं।
दानी के मानी हैं यह
कि जो कुछ वह दे
वापिस न ले।
ईश्वर तो उस महाजन की तरह है
जो देता है धन,
फिर वापस लेने को
सूद के साथ।
तो—
मूल तो निश्चित ही वापस होना है,
पर यह तो बतादो
सूद में देने को
क्या कुछ संजोया है।
कहीं ऐसा तो नहीं
कि मूल भी डुबोया है।
और यदि ऐसा है—
तो,
उसके दरबार से साख उठ जाएगी
बात मिट जाएगी।

(४)

ईश्वर एक बहुत बड़ा सम्पादक है।
उसके अखबार के प्रतिदिन दो अंक निकलते हैं।
रात और दिन उनका नाम।
चंदा और सूरज नाम के दो पैकार
उनको दुनिया के बाजार में लाते हैं
फेरी-सी लगाते हैं
द्वार-द्वार जाते हैं
अखबार देते हैं।
और हम!
उस अखबार से उतना ही पाते हैं
जितना हमारी अपनी भाषा में छपा होता है।

यानी जितना हम पढ़ सकने में समर्थ ।
इसलिए ऐ दोस्त !
उन भाषाओं को सीखो
जिन्हें नहीं जानते हो,
ताकि ईश्वर के अखबार की और घटनाएँ भी
पढ़ सको ।

(५)

ईश्वर एक बहुत बड़े छापेखाने का मालिक है ।
ब्रह्मा जी उसके कम्पोजिटर,
दस प्रजापति उसके मशीन मैन ।
तरह तरह के टाइप हैं ।
भाँति भाँति के रंग और रोशनाइयाँ ।
सूरज चाँद और मेघ,
तीन बड़े कलाकार उसके पास हैं ।
जो भाँति भाँति के रंग बखेर कर
आसमान की चादर पर
धरती के काग़ज पर
चित्र बना जाते हैं ।
वह जो छापेखाने का मालिक है न !
बहुत बड़ा लेखक भी है ।
नाटक ही लिखता है ।
तीन बड़े नाटक तो पूरे लिख चुका है वह ।
[सतयुग, द्वापर, त्रेता]
चौथा चल रहा है ।
धारावाहिक रूपक है--
जितना लिख जाता है,
उतना छप जाता है ।

(६)

ईश्वर को दुनिया में
अनगिनती लोगों ने
अनगिन तरीकों से बखाना है ।
उसको अपने मन से
अपने अपने ढंग में अनुमाना है ।
मैंने जो कुछ बुज़ुर्गों से गुना है ।
देखा, पढ़ा और सुना है ।
उससे इतना अनुमाना है,
ईश्वर के बारे में
बस इतना जाना है—
कि,
तुम भी ईश्वर हो,
मैं भी ईश्वर हूँ,
ये भी ईश्वर हैं ।
मगर,
तुम, मैं और ये
यानी, हम सबके सब
एक भूल करते हैं ।
और वह यह कि—
तुम अपने को ही ईश्वर समझते हो,
मुझको या इनको नहीं ।
ये अपने को ही गौड (God) माने बैठे हैं,
तुमको या मुझको नहीं ।
मैं अपने को ही खुदा समझे बैठा हूँ,
तुमको या इनको नहीं ।
तो आओ,
आज मिलकर बैठें और जानें
इतना तो मानें—
जब हम सब ही ईश्वर हैं—
तो एक दूसरे को दलें नहीं,
छलें नहीं,
ऐसे रहें—
जैसे भाई-भाई रहते हैं—
प्यार से ।
क्योंकि तुम, मैं और ये
हम सब के सब ही तो ईश्वर हैं ।

प्रकृति-गीत

भीमसेन कौशिक

मैं प्रकृति सुन्दर चराचर विश्व नित्य विहार मेरा।

तुंग हिम-मण्डित हिमाचल के शिखर पर राजती मैं
उदय-गिरि पर अरुण का शृङ्गार नित नव धारती मैं
दिव्य स्यन्दन पर दिवाकर के सदा उल्लास पाकर
सौम्य शशि के हास पर सर्वस्व अपना वारती मैं

राज मेरा है मही पर गगन पर अधिकार मेरा
मैं प्रकृति सुन्दर चराचर विश्व नित्य विहार मेरा।

गिरि, सरोवर, रम्य नदियों के तटों पर मैं मचलती
सुरभि बन, उद्यान, उपवन, निर्झरों में नृत्य रचती
बरसती हूँ मैं जलद से, चपल चपला में चमकती
उदधि की उद्दाम लहरों में थिरकती मैं न थकती

अनवरत रसमय समीरण में सुखद संसार मेरा
मैं प्रकृति सुन्दर चराचर विश्व नित्य विहार मेरा।

सौख्य, सुषमा, स्वास्थ्य, शुचिता, मुग्धता है नाम मेरा
हास, जीवन, नृत्य, यौवन, मत्तता से काम मेरा
हिम, शिशिर, मधु, ग्रीष्म, पावस शरद हैं मेरे खिलौने
दिवस रजनी की मधुर दोला बनी विश्राम मेरा

व्योम की विभुता, असीमित काल ही आधार मेरा
मैं प्रकृति सुन्दर चराचर विश्व नित्य विहार मेरा।

ऋजु, सरल ग्रामीण जन जग में सदा मुझको सुहाते
मुग्धशिशु कल-हास का मुझसे सुखद वरदान पाते
हरिण-शावक-नयन में संकेत मेरा ही छिपा है
प्रेम से कल-गान में मेरा विहग स्वागत सजाते

ग्राम, वन मुझको सुहाते नगर से क्या प्यार मेरा
मैं प्रकृति सुन्दर चराचर विश्व नित्य विहार मेरा

हंस, हिम, मुक्ता, स्फटिक, पय, रजत मेरा यश समुज्ज्वल
कुसुम अगणित में विविध रँग रूप मेरा हस्त-कौशल
हरित ही परिधान मुझको नित्य सबसे अधिक भाता
पल्लवों के भेद्र आकृति से प्रकट मेरा कला-बल

देख पाया किन्तु अब तक कौन जन आकार मेरा
मैं प्रकृति सुन्दर चराचर विश्व नित्य विहार मेरा।

भ्रूण को कुछ काल रख कर जन्म प्राणी को दिलाती
बीज का अंकुर बनी मैं सृष्टि-क्रम को हूँ चलाती
सिंह का विक्रम, उरग में वक्रता, गज का कलेवर
वेग मन का मैं, गगन पर विहग को मैं ही चढ़ाती

प्राणियों में प्राण का संचार या संहार मेरा
मैं प्रकृति सुन्दर चराचर विश्व नित्य विहार मेरा।

सत्व, रज, तम नित्य मेरे इंगितों पर नाचते हैं
राग रोष दया खड़े हो सतत भ्रू-बल आंकते हैं
'दुःख मेरे नियम की अवहेलना, सुख नित्य पालन' —
जानकर भी मनुज मेरी ओर कितने झांकते हैं

ज्ञान नर में, नारियों में प्यार या श्रृङ्गार मेरा
मैं प्रकृति सुन्दर चराचर विश्व नित्य विहार मेरा।

SCIENCE

ECONOMICS IMPORTANCE OF ZOOLOGY

A. B. MISRA

PART I. THE ECONOMIC VALUE OF THE SIBERIAN MARMOT

The Siberian marmot belongs to the Order Rodentia. Its correct systematic position is shown below.

Order ... Rodentia

Family ... Sciuridae

Sub-family ... Sciurinae   Marmotinae

Genera ... Citellus   Cinomys   Marmota

Acccording to zoological nomenclature, it is known as *Marmota (Arctomys) Sibirica*, Radde. The animal is of the size of a badger and of a stout build, with short but strong limbs which are excellantly adapted for digging in the hard ground. The muzzle and the neck are short; the ears erect though scarcely visible against the general hairiness of the body. The whiskers are long and the tail is thick and bushy. The colour of the marmot's fur is generally straw-yellow with a shade of brown. The upper part of the head and muzzle are of a dark brown colour, almost black, the lower part of the body is of a rusty yellow colour. The marmot possesses a keen power of hearing, has good eyesight and a keen sense of smell.

Habits

The marmot is a burrowing animal and lives the best part of its life in burrows under the ground. In summer, it lives, singly or in pair, in its burrow with the young ones. In making the burrow, the marmot brings up to the surface soil from below which gives rise to a mound near its cellar.

This is often named as the "Butan". The marmot are gregarious animals and generally burrow together in the same locality, so that a small colony springs up wherever these animals thrive and abound. On the submit of these mounds, the marmot basks itself in the sun or keeps a vigil on its onemies from this position of vantage. On scenting danger or on taking a fright, the marmot quickly retreats within its burrow. According to Loukashkin the chief grass growing in the level steppes of Barga is *Agropyrum pseudoagropyrum* Franch which the mamots eat. The marmot rarely drinks water, and that too a little at a time, sipping it and lifting up its head every time. It is not clear how they obtain their water supply because their buttans are often several kilometres (30 to 40) away from any source of water. The Transbaikalians and Mongols believe that the marmots do not drink water but A. Cherkassoff found them near water streams and even water inside their intestines.

Annual life cycle

At the end of April, the marmot wakes up from its winter sleep and is then a lean animals having lost much of its extra weight during the hibernation. Rutting takes place immediately, so that the males and the females eagerly seek each other's company at this time. The period of gestation lasts for six weeks, and, at the end of May, the female marmots bear young ones, usually two to six or eight in a litter. The marmot breeds only once a year. The young ones are suckled by the mother and graze in company not far away from the parent.

On the approach of winter, the marmots collect in numbers and either dig new cellars or recondition old and deserted ones of the previous season. Often an old underground cellar is rennovated for use by the collective efforts of a friendly group. The burrows are cleaned up and enlarged, and a fresh lining of dry grass is laid in them. By the beginning of October, the marmots retreat into them and the entrances

to them are barred. Preparatory to hibernation, the marmot stops feeding, closes the entrance (or entrances) to the burrow, and cleans out its intestines in a special compartment of its under-ground cellar which serves as its lavatory. The Siberian marmot sleeps till the end of March or the beginning of April. On waking up, it feeds on grass and other herbage that is available to it near its burrow.

Economic value of Marmot

The marmot is a valuable animal from an economic point of view, because it yields meat, fat and fur to man. Each well-grown marmot yields about 15 lbs. of meat which is used for food by the Tungus, the Buriats and the Mongols. The aborigines of the Gobi desert and the Cossacks too relish its meat. According to Henderson and Craig the flesh of the woodchuck (*Marmota*) "is considered a great delicacy among the mountain people of Kentucky...... The flesh of the marmot when taken young and properly prepared, is very edible, but old individuals are tough and the meat possesses a gay taste which some dislike." The other valuable product of the marmot is its grease which is used as a frying medium by the natives of its homeland. Raw fat is put to other uses also. *The most valuable product of marmot, however, is its skin.* At the end of the World War I, a demand for marmot fur suddenly grew in the international fur market, when a great gang of hunters began to trap these animals for their skins. There was such a demand for it that marmots were imported into the U. S. A. from Russia for the purpose of farming. But they soon proved themselves to be a nuisance in as-much-as they damaged the field and garden crops, and the government had to adopt measures for their destruction. Since then, marmot farming has fallen out of favour and the furriers are content to import the skins and cure them.

Knowing the marmot to be a shy animal, trappers use several methods for securing it. The means employed for the purpose are:

(i) stalking with a dog, crawling on the abdomen, and then shooting it;

(ii) trapping by means of nooses;

(iii) stalking at the burrow and then shooting it;

(iv) digging the burrows and bodily removing them.

Statistics of the output of marmot fur (after Loukashkin)
Skins obtained from Barga.

Years		Number of skins	Years		Number of akins
1913	...	30,761	1927	...	292,429
1914	...	177,460	1928	...	733,155
1921	...	2,013,668	1929	...	278,306
1922	...	768,317	1930	...	8,174
1923	...	228,783	1931	...	15,000
1934	...	1,038,096	1932	...	48,317
1925	...	276,740	1933	...	80,000
1926	...	505,063	1934	...	160,000

Skins obtained from Russian Transbaikal

Years		Number of skins	Years		Number of skins
1908	...	700,000	1923	...	20,000
1909	...	800.000	1924	...	120,000
1910	...	2,500,000	1925	...	268,000
1911	...	1,329000	1926	...	350,000
1912	...	1,332,000	1927	...	62,000
1913	...	930,000	1928	...	59,000
1914	...	324,000	1929	...	85,000

In Mongolia (Halha), the output in 1927 was 1,800,000 skins.

Roughly speaking, 2,000,000 skins are estimated to be marketed from the region of Barga, Transbaikal and Halha. The skins are exported principally to the U.S.A. and England, and, to a small extent, to Germany and China. They are used as a substitute for expensive fur.

The average price of the marmot skin, as determined from the prices ruling in the past 16 years, before the World War II, was 1.75 gold yen. Therefore, the total value of 2 millon skins will be about 2,750,000 gold yens or 27,500 roubles.

The reported sale of marmot skins in 1919—21 in the U.S A. totalled 3,107,759 skins. There has been a steady rise in the price of marmot skin from $0.12 in 1900 to $0.90 in 1910. Since then the price is nearly double.

Marmots as carriers of human plague

The marmot is important for yet another reason. In Manchuria, Mongolia, Eastern Siberia and Kassackstan, the marmot acts as the carrier of human plague. *The rat, though present in this region, is singularly free from infection.* Now and then, there are serious outbreaks of marmot palgue among the population of the steppes, which is transmitted to man. Whenever this happens, a large number of men and marmots perish.

When the skins are dried in the sun and the wind, the plague bacilli are no doubt killed off. But extra care is taken to pass the skins through disinfection chambers at Manchouli and Hailar on the Chinese Eastern Railway, prior to exporting them, to ensure that the disease does not spread to other countries.

PART II. GOATS FOR MILK, MEAT AND OTHER ECONOMIC PRODUCTS

Introduction

The goat belongs to the genus Capra, order Ungulata, sub-order and Artiodactyla is believed to have been domesticated in very early times. Professor Rolleston found the goat represented in the Stone-age Lake-dwellings of Moosseedorf. It is also thought that the goat was first domesticated in the East, and spread west-ward in company with the successive waves of human emigrations.

Varieties of Goats

The goat has made its home all over the world. According to M. Joseph Crepin (1906) the following breeds of goats are well defined and recognisable by means of some stable characteristics—the Alpine, the Schwazhals, the Pyrenean, the Massif central, the Corsican, the Murcien, the Grenada and La Mancha of Spain, the Maltese, the Arabian, the Crimean, the Bosnian, the Syrian, the Cashmere (including the Tibetan) and the Angora. European experts recognise a number of additional breeds, but they are, more truly speaking, local varieties than well established stocks of goats.

When a detailed examination of the characters and measurements of the goats of any region or country is made, it is found that most of them are hybrids, which have cross bred several times, both forwards and backwards, and gradually merged into one another. The goat is a stock of animals in which the greatest degree of admixture and inter-crossing has been allowed to take place since the earliest time and, in the company of man, has roamed all over the world, through in hills and dales, and made its home in the cold regions as well as the hot zones of the world.

The best variety of Indian goat is the *Jumna Pari* which resembles the Nubian stock in having long, wide and pendulous ears and a bow-shaped face. They are tall and leggy and their horns are upright or often spiral shaped; though in some cases, they may be closely recumbent on the head. The hair is very short, being beautifully sleek and glossy and generally of a red tan or black colour. They are said to be good milkers and carry immense udders with big teats.

Hints on Goat-keeping

It should be decided at the outset whether the goats are being reared for milk or meat. If the aim be to maintain a goat herd of a good milking strain, then care should be taken to obtain a reliable stock of animals. Unfortunately in this country, herd books are not maintained, and it is impossible to know the pedigree of an animal except by guess. Nevertheless, a beginning can be made by purchasing a stock of males and females, and, then, slowly discarding the unsatisfactory animals as experience of their performance is gained by the owner of the herd. Generally speaking, males whose daughters are known to be good milkers should be selected for mating and only selected females of good milk yielding capacity should be lined by them. Defective, ricketty or otherwise faulty kids should be destroyed as soon as the lactation period is over.

As in the case of the cows, so here too, no useful purpose will be served by our importing foreign breeds of goats for improving our indigenous stock. Our goats have lived and thrived under conditions which are very different from those obtaining in Norway or Sweden, Germany or Spain, England or Africa. The climatic and grazing conditions of those countries are different from those found in India. In fact our animals have adapted themselves to the local conditions so completely that the results of cross-breeding them with the foreign stock are destined to prove disastrous in the long run. It would be a wise plan to raise a herd by scientifically selecting from a purely *Jamuna Pari* stock.

Goat keeping in India has, so far, gone on in a haphazard way. The peasants and the lower classes of the people usually keep a few heads, which feed on the rubbish of the kitchen or graze in the field, and are sold off as soon as the kids are marketable. It is, therefore, necessary to give here some practical suggestion on goat-keeping.

Stages in the Life of a Goat

A goat passes through three stages in its life, viz., (1) the kid, (2) the goating, and (3) the adult. A goating is an animal over one year old but under two. It is safer to buy a goating than a kid, although the latter cost less because the good and bad points of the animal are nearly visible at this stage of its life.

Breeding

It is not advisable to mate the females until they are 15 to 18 months old. The average gestation period of a goat is hundred and fifty days. During the period when the goat is in kid, more care should be taken of her. She should be let out for exercise whenever the weather is favourable. It is peculiar with the goat that she does not dry up eompletely but goes on yielding some milk right up to the time of kidding. The only thing to do under these circumstances is to milk her off. While the goat is in kid, she should be well fed because see has to bear the strain of the developing kids and also to prepare for the next lactation.

Parturition

Just as in the cow, the act of parturition is some times troublesome to the animal especially if it has not been well cared for in the state of pregnancy. Another cause of trouble is due to the multipare parturition that is often the case in goats. Three or four kids developed together *in utero* and in such a case mechanical aid is necessary to the kidding female.

The Male

It is not possible in India to secure for service a good proven sire, because of the absence of the 'Herd book' which are maintained in the European countries. In the absence of this and the impossibility of obtaining reliable or even semi-reliable information about its sisters and half sisters, the best thing to do is to judge it by the conformation of its body and to select an animal that will as far as possible be free from faults. One should, however, be on the guard against selecting a very masculine type of male because of the possibility of his proving a beef type rather than a good sire for milk-yielding offsprings.

Utility of Goats

Goats are valued in this country chiefly for their milk, flesh and skin. There is a widespread belief that goats' milk is good for infants and invalids. It is supposed to be easily digestible and more nutritious than cows' milk. That is the reason why goats' milk is given to the weaned or sickly children. It is also held by the Ayurvedic physicians in this country that goat's milk is superior to cow's milk for those suffering from tuberculosis. As a matter of fact, it is also held by them that cow's milk is responsible for the spread of tuberculosis. May be that is why, in the European countries, cows milk is sterilised (pasteurized) before distribution. It is held by the Ayurvedic physicians that goat's milk possesses some germ-destroying property which establishes its superiority over cow's milk.

Chemical Composition

	Casein	*Butter fat*	*Sugar*	*Salts*	*Water*
Goat ...	4·06	5.14	5.28	0.58	89.94
Human ...	1.52	3.55	6.50	0.45	87.98

As regards its keeping properties, goats milk is not equal to cow's milk, as it more eassily curdles on boiling if not quite fresh.

Goats milk is not marketed in India in the same way as cow's milk. Whoever needs it for a baby or a patient usually keeps a goat for the purpose. Therefore a large number of animal heads are kept in this country. Other products, like goat cheese or butter are not in demand here and so the supply of them is almost nill.

The meat of the Goat

A certain section of the Indian population is averse to eating meat, be it beef, mutton or any flesh. On this account, the demand for it is not so excessive as in the European countries where meat forms an essential part of the daily menu. Beef is consumed here to a very limited extent, and, amongst the Hindus, its use it tabooed. Mutton is also not a favourite with us though it is very much in demand in Europe. Those who are fond of eating meat generally consume the flesh of the goat.

Goat meat is liked by the Italians, Spaniards, French, Maltese and the Greeks. In Muslim countries, from Turkey to Central Asia, Arabia, Egypt, and Transjordonia etc., there is a great demand for it. In Hebraic countries it is particularly sought for, but some how a prejudice exists for it in England.

In India, the goat's meat is available to us in two forms butcher's meat and '*balidan prasad.*' Orthodox Hindus do not accept the former as it considered to have been fouled for their consumption, but slaughtering the animal in the presence of a deity, and, then, accepting it as '*prasad*' is a practice sanctioned by the Shastras. The *Vaishnavas* do not touch meat, but the *Shaktas* readily accept it in the form of '*prasad*'. In recent years, the Hindus have greatly relaxed their former prejudice in this respect, and all manner of men have begun to eat the butcher's meat. Having regard to the fact that India is the home of 37 crores of humen beings, of whom at least 50 per cent are meat-eaters (though for economic reasons, not daily consumers) a large population of goats is needed to meet the demand for its meat. And so in the villages the

women folk, who tend to the cattle, keep a few goats at partically no cost to themselves and earn a little income by selling off the goatings. This was so till the out-break of the World War II, when what with the stationing of British and American troops in this country and what with the recruitment of into the army, the demand for the goats rose abnormally high. Such animals as were available in the countryside and elsewhere were secured by the agents, but a real dearth of them soon became manifest. The result of a recent census of animal heads is not available to us, but it is certain that the number of goats will not be proportionate to the size and area of the country, because goat breeding has never been practiced here as an ancillary to farming. The second world war has, however, shown how dismal the situation is. It is, therfore, necessary to pay some heed to this problem and to popularize goat-farming.

Goat-skin

More than for the milk, the goat is valued for its skin also, which, when, converted into leather, is in great demand. Goat skin is considered to be superior to ordinary leather by virtue of its softness, elasticity and damp-resistance.

Goat Population in some European Countries

According to H. S. H. Pegler, the goat population of some of the European countries is as follows :

Russia	...	1,393,000
Austria	...	1,000,000
Hungary	...	060,000
Switzerland	...	414,968
Germany	...	2,104,240
France	...	1,851,134
Spain	...	3,680,000
Italy	...	1,690,000
Greece	...	1,350,000
Great Britain	...	60,000

It is not possible to say anything about the total number of goat heads in India. Recently, a census of the goats and other milch cattle has been under-taken by the government but the report has not been available to me. Nevertheless, it can be safely predicted that the number of goats per capita of the population is far less than that obtaining in some of the European countries.

Other Products of the Goat : (The Álpaca, Mohair & Kashmira).

The Mohair, Alpaca and Kashmira are some of the well-known fabrics which are made out of the fleece of certain varieties of goats.

Many varieties of goats have, besides hair, a very fine fleece as an undergrowth which in some cases is plentiful.

Mohair

Mohair is obtained from the Angora goat which first attracted attention in the European market in 1749 when some Dutch and English merchants exported it from Angora. It was, however, not till 1836 that the Mohair gained favour with the English dealers. The Mohair is elastic, lustrous and durable, and the chief use to which it is put consists in the maufacture of furniture "*plush*" or "*plush*" rugs. Recently, it has also been used in the manufacture of ladies light dress goods known as "*brilliantine*". Imitation '*Seal skins*' and '*shark skins*', which were at one time so much in vogue, were also made from it. Mohair is also used in providing 'chevelure' for toy-babies, judges' wigs, etc., and in making imitation rugs and "*tiger skins*". An idea can, therefore, easily be formed of the monetary value of this article of commerce for which, not long ago, a craze existed nearly every where.

Alpaca

The alpaca is also made from fleece of the Angora goat. This fabric is woven from twisted Mohair fibres, the warp being usually of wool. It takes the dye readily and the

most popular colour of alpaca is black. At one time, it was very much in fashion, but now it has gone out of favour.

Kashmira

The *Cashmere* shawls have long been known to us and to the world outside for the fineness of their texture, warmth and durability. Besides the shawl, Kashmir artisans also make several varieties of textile fabrics which pass under the common name of *kashmira* in India.

The cashmera wool out of which these several fabrics are made is obtained from the Tibetan goat, which is generally found at or near 15,000 ft. above the sea level in the Himalayan ranges. The outer covering of hair of these animals is useless, but the undergrowth of the downy wool constitutes the prized material. These goats are small sized, with semi pendent ears and twisted horns. The downy wool grows at the roots of the hair, appearing in the autumn and being shed in the spring.

This industry has been thriving in Kashmir since times immemorial, and exists as a cottage industry. 16,000 to 20,000 looms were at one time working in Kashmir, but foreign competition had very nearly killed off this industry. The World War II has again given it a fillip and it may now endure.

This is also a small cottage industry in Nepal based on the downy wool of the Tibetan goat. Very soft and thin rugs, mufflers and ladies *shawls* are made in shade of grey and white, and there is a growing demand for it in India as the fabric is becoming known. For its warmth and softness it is imbeatable.

PART III. PLACUNA OYSTER INDUSTRY

The true Pearl Oyster *Margaritifera (Pintada) vulgaris* occurs in the territorial waters of the Rann of Cutch, the gulf of Cutch and the gulf of Cambay) but in limited numbers. The true pearl oysters of Ceylon and Tuticorin (Madras) are gregarious in habits, whereas the Placuna Oyster is of a solitary habit in these waters.

The first discovery of the pearl must have been made by some maritime people, who on opening the shellfish for food found an object which appealed at once to their sense of beauty as suitable for personal adornment. Howsoever the discovery may have been made the pearls attracted attention from the earliest times. The important pearl fisheries are those of Venezuela, Mexico, California, Columbia, Panama, Australia, Japan, India, Ceylon, Persia and Arabia and many other islands in the Atlantic and the Pacific oceans thus proving that pearling centres are distributed all over the world, especially in the continents of North and South, America, Australasia and Asia. Fishing is done either by beach-combing, dredging or diving. In the last operation a diving suit is worn and a draft of air is supplied to the diver, but in the East the diver does his work in the nude state by plunging into the waters.

Pearl Fishing in India

From very ancient times, India has been famous for its pearl oysters and was at one time, the chief market of the world for good pearls, the fisheries of Ceylon being the chief source of supply of them. In India the most ancient and profitable fisheries are the ones in Tinnevelly and Madura (Ramnad), the headquarters being located at Tuticorin. It is proposed to deal here with the window-pane oysters, which occur in the Gulf of Cutch, in Sind, near Bombay and near Trincomali in Ceylon. These window-pane oysters are also fished in the Dutch East Indies and in Borneo.

The window-pane oyster like other Bivalves also produces pearls which are admittedly of an inferior kind.

Origin of Pearls

What is after all, the nature of the pearl of which we hear so much in literature and folk-lore. Science which disillusioned the world by saying that the diamond was nothing but carbon tells us that the pearl, like marble, limestone and chalk consists of calcium carbonate. The pearl of the oyster is just a concretion of calcium carbonate, the self-same substance which forms the inner lining of the shell. The pearl is formed by the deposition of concentric layers of nacreous substance around an irritant such as worm, sandgrain, diatoms etc., which get into the oyster. The foreign matter, dead or alive, causes pain and irritation to the host and leads to the formation of the lustrous pearl. Hence the Persian poet, Hafiz, says 'Learn from you orient shell to love thy foe and store with pearls the wound that brings thee woe'. Edwin Arnold also wrote:

> "Know you perchance how that poor formless wretch
> The Oyster gems his shallow moonlit chalice?
> Where the shell irks him or the sea-sand frets
> This lovely lustre on his grief".

The popular beliefs in the origin of pearls from raindrops, dew, tears of sea-nymphs etc. are not correct. In fact, it is asserted without foundation that rain falling during the astral period, Swati, changes into pearls within the oysters. Serious investigation into the origin of pearls is a matter of recent history although the list of workers is headed by Linnaeus (1761) and includes Jameson (1902) and Hornell (1905), who retired as Director of Fisheries, Madras, in 1923. Dr. Jameson held that the diatoms and sandgrains led to the production of pearls, while Mr. Hornell believed that the inductive agent was a cestode parasite.

Culture Pearls

Tradition has it that the people of Ceylon could make artificial pearls almost like the natural ones. But long before this, in the days of Buddhist supremacy, the Chinese were acknowledged experts in making river mussels yield pearl images of Buddha. Tiny bell-metal images were introduced into the mussel between

its mantle and the shell. In course of time these became coated with pearly nacreous substance and thus became transformed into pearly images. The mystery underlying the process became clear when scientific investigators discovered the mode of formation of the pearl. Taking the Bivalves, charging them with glass beads etc. and returning them to the waters for the irritant to do its work, was the ancient method employed in the production of cultured pearls. Mikimoto of Japan experimented for years, but it was only in 1910 that he could secure, for the first time, a perfectly formed pearl unattached to the shell. Mr. Hornell, who had splendid opportunities for work while in service both in Ceylon and in Madras, turned them into good account and succeeded in 1908 in inducing the growth of 'free' pearls. Later, he succeeded in forcing the pearl oyster to produce within a period of two months from the date of 'operation' clusters of seed pearls to order. Mr. Hornell's experiments which had much initial success came to a standstill in 1912 for want of a suitable establishment. Later, he proposed the establishment of a Pearl farm off Krusadai island, near Pamban, 'where the pearl oyster could be treated on a commercial scale with a view to force the production of pearls as a marine industry of considerable magnitude'. But the scheme some how did not materialise perhaps because in 1921 Mikimoto's success created a scare in the pearl market. The scare was due to the resemblance that the Japanese "cultured" pearls bore to the "natural" ones and the difficulty experienced by the jewellers in distinguishing between them. Really speaking, there was no cause for alarm. The cultured pearls are true pearls like those obtained from nature, the only difference being that the former are produced by the 'tame' oysters and the latter by the 'wild' ones. In cultural practice the nucleus of pearl formation is provided by human agency. Biologically speaking, there is no difference between the cultured pearl and a true pearl.

The Habitat of Placuna

The window-pane oyster, whose distrubution ranges from the Arabian sea on the west through the Indian ocean and the

Malayan seas to the coast of China on the east, is mainly a brackish-water form found in hard or greyish-black mud in the creeks and backwaters from Sind to the Madras Presidency and in the Andamans; it also occurs in the open seas off the Coromandel coast and in the Gulf of Mannar. Its haunts on the north-eastern seaboard of the Okhamandal district are the muddy bay of Balapur on the eastern side of Beyt island the and Rann Bay whose bottom is uniformly tenanted almost exclusively by these two mud-lovers, window-pane oysters and the *Lingula*. In Rann bay, live oysters are found in good numbers from the low-tide level up to a depth of nine feet at low water of the spring tide. Shoreward they are completely absent in the exposed areas and seawards very sparse in the deeper areas beyond the two fathom line. In this horizon from the low tide level to a depth of nine feet, the optimum depth for their well being, these oysters lie upon their convex left valves with the hinge region slightly sunk in the mud. This habitat of shallow waters and sufficient light finds favour with this bivalve. *Placuna placenta* is an interesting Lamellibranch in that it exhibits peculiarities of general asymmetry and extreme specialisation of certain of its organs. All these features enable it to adapt itself perfectly well to the habitat in which it occurs. In the Balapur bay both of these animals live in abundance, the mudflats being characterised by a Lingula-Placuna zonation.

Dead Windowpane Oysters

Of great interest and value are also the areas where dead windowpane oysters are found. The true pearl oysters, if not fished alive, lose the pearls by corrosion and spilling within a short time after death. The valves of dead pearl oysters gape but the window-pane oysters die with their valves tightly closed thus retaining the pearls even when the flesh is decayed. The area of deposit of dead oysters is co-existant with that of the live oysters, viz., the muddy flats lying on the western shore of the Rann bay. The dead oysters lie bare in the mud over the whole area at low tide. The dead oysters occur in successive layers of the mud but their number varies in different places. The fishing

ground is about eight miles long and two miles broad including the whole width of the mudflat exposed at low water of the spring tide, together with the shallow area down to a depth of one fathoms.

Feeding habits

The alimentary canal of *Placuna* consists of a slit-like asymmetrical mouth, a rather long and wide aesophagus, a capacious stomach surrounded by a well-developed digestive gland, an enormously developed pyloric caecum, a short intestine making a single loop and a short, slightly curved rectum ending in an anal opening in the centre of a broad and widely everted membranous collar. The short cilia that clothe the whole frontal surface of each filament in the branchiae serve to propel the food particles. The food of the window-pane oyster is mainly diatomic and it is found in the plankton of the waters which it inhabits . Diatoms thrive in muddy bottoms where the water is slighlty brackish and as most diatoms have sharp siliceous tests, the crystalline style of *Placuna* is extremely long.

Breeding

There are two spawning seasons of this dioecious animal, the first from October to December and the other from April to May. The first one is more productive and the maximum amount of 'spat' falls during the first six weeks. A perceptible change occurs in the weather on the Indian coast in the month of October when there is also a variation in the specific gravity of the water in the *Placuna* beds and this provides the stimulus needed for the emission of the reproductive elements. It has also been reported that a large influx of fresh-water, during exceptionally wet seasons, causes a widespread mortality among the oysters by reason of the suspensoids.

Growth and Production of Pearl

The growth rate is generally as follows : $1\frac{3}{4}''$—$2''$ in 2 to 3 months, $4''$—$4\frac{1}{2}''$ in 15 to 18 months. In the first 18 months, the shell increases in size, afterwards it increases mainly in thickness. In two years, the spat nearly attains the size of the

parent. After the lapse of two years, a grown up spat cannot be distinguished from an individual belonging to an earlier generation. Pearls are formed only when the window-pane oysters have attained the age of three years. Unlike Bombay, Baroda window-pane oysters are prolific in producing seed pearls.

Placuna Culture

It is not possible to make the spawn and the spat settle in desired areas as they drift aimlessly at the mercy of winds, waves and currents. The culture method, therefore, consists in transplanting large quantities of young *Placuna*, the occasion most suitable for this being when abundant spatfall occurs. This means formation of new beds and multiplication of breeding stocks. It also contributes to the well-being of the parent bed by reducing over-crowding and permiting freer growth. Balapur and Aramda-Kiu were considered suitable by Mr. Hornell for the formation of new beds by transplantation from the old beds in the Rann bay. A leasee if allowed to fish the transplanted beds soon ruins it. In fact no bed of oysters, under the age of 3¼ years, should be fished, and no oyster measuring less than 4½ inches in diameter ought to be removed alive from the sea.

Fishing and Depletion

In Sind wasteful methods of fishing, especially destruction of immature oysters, have led to a gradual diminution of the returns. To obtain a few annas worth of pearls, thousands of young oysters used to be destroyed without any heed to the fact that these, if left to mature, would yield pearls hundred or two-hundredfold in value. Furthermore, such indiscrimate decimation leads to depopulation of the beds. Ceylon had a similar tale of diminishing prosperity due to over-fishing and poaching.

Pearls and their Uses

Pearls of the window-pane oyster are all seed pearls known in trade circles as *Kanchara* pearls ; they are usually located at the side of the visceral mass and also in the thin tissue of the free mantle. If, however, they are attached to the shell, as it often

happens, their value is reduced to nothing. The pearls of the window-pane oyster are small in size, lustrous, but irregular in shape. The main use of these pearls is in indigenous medicine and are in great demand by the *Vaids* and *Hakims*. They are also converted into costly lime for use with *Pan* and *Supari*.

Modus operandi of the Fishery

At low tide, the fisherman, with crude mocassins of rough hide shod on his feet to prevent damage by cuts from the sharp edged shells and cruder gloves (finger scheaths) fitted to his right hand, forces his way into the mire with a stout stick with which he plumbs the depth and feels his way about. Formerly each fisherman used to propel in front of him a shallow tub or wooden box resting his hands upon it. A bag hung by a rope is slung across his shoulders and when the oysters are felt by the feet, they are picked up by the hand and put into the bag. The collection goes on till the return of the tide. Country craft are used to transport the fishers to places where they choose to work. On their return ashore, the oysters are opened and their contents, are washed on the beach and allowed to rot and dry. The pearls are then picked up by sifting.

Improvements in Fishing Methods

It has been suggested that, instead of the mannual labour, a suction dredger or a grab dredger be used but the use of such machines will damage the beds of the live oysters and deplete the beds ruinously . It is, therefore, advisable to carry on with the help of the manual labour because the least amount of damage is done to the bed in this way.

History of the Placuna Pearl Fishery

The pearl fishery of Jamnagar of the true Pearl oyster is an ancient avocation but the window-pane oyster fishery is of recent date. Not much was officially known of the latter in the Okhamandal district prior to Mr. Hornell's investigation in 1905. On Mr. Hornell's recommendation, the right of fishing these beds was leased out to the fishermen.

Uses of the Shell

Placnna placenta earned the name of window-pane oyster from the use made of its shell . In the far East, the shells are soaked in water to decompose, then tossed and shaken together until all the soft parts are dislodged and the shell freed of the adhering tissue. Then they are cut into rectangular piaces roughly 2 inches square and secured between light strips of wood and used as window-panes. It is said that a Chinaman was the first to use the shells in order to glaze the doors and windows of this home. Such windows can be seen in the Portuguese possessions in India. A Portuguese fishing village in Daman has such windows which are said to be over 300 years old. Such windows have a distinct advantage over glass in cutting off strong day-light and one can find severalhospitals in Manilla in the Philippine islands, where windows are fitted with *Placuna* shells. These shells are useless for button making being too soft and unable to withstand abrasion.

PART IV.

HELMINTH PARASITES OF THE INDIAN CATTLE.*

The word '*helminth*' is of Greek† origin. At present however, the term is restricted to the parasitic worms. The knowledge of helminth parasites dates back to very ancient times and references to them are found in ancient literature.

Although knowledge of helminthology is very old, its development on proper lines has taken place only during the last nine or ten decades.

In a country depending largely on agricultural resources, the care of the cattle is of paramount importance. Besides tilling the land, maintaining its fertility, serving as a means of transport and supplying hide, the cattle provide the most ideal food for man, viz., milk.

Some ailments of cattle take a heary toll of their life. Such fatal diseases are often caused by worms that parasitise these animals. Although the exact data of the loss due to worm parasites of cattle are not available, it is certainly considerably larger than is generally supposed. The object of the present note is, therefore, to make known to the readers the important helminth parasites that infest cattle in India, to give an outline of their life-cycle and to indicate the harm that they do to the cattle population of this country.

Helminth parasites belong to the Platyhelminthes and Nemathelminthes and are commonly known as trematodes, cestodes and nematodes.

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*This part is based upon the notes of Dr. G. D. Bhalerao who delivered a lecture here on this theme. I requested him to expand the notes into a paper. For want of leisure, he could not do so. When I pressed him for it, he sent me his notes. Later, he sent me some reprints also to enable me to expand the theme. Unfortunately he died soon afterwards. With the help of a few books, his well-known publication entitled "Helminthic Parasites of the Domesticated Animals in India" and some reprints sent by him, I have expanded his notes to the present dimension.

†Helmins, helminthus and inthos all mean worms in Greek.

Trematoda

Fasciola gigantica (Cobbold, 1855). This is the commonest and the largest fluke found in the buffaloes, sheep and goats in India. It inhabits the bile ducts, but is occasionally found in the lungs or in the coelomic cavity.

The eggs, liberated by the fluke, arrive into the duodenum with the bile and are voided out in the faeces of the host. They develop *miracidia* in them in contact with water. The miracidia hatch in water after nine to fifteen days, depending on the temperature. Ordinarily they can live in water for only 24 hours, but at a lower temperatures they may survive for a few days. For further development they requires an aquatic mollusc, which is *Limnaea acuminata* in India. The miracidium casts off its ciliated coat, pentrates actively into the snail and reaches the liver via the lymphatic system. It then develops into the *sporocyst*, rapidly produces the redia which leave the sporocysts and again produce rapidly another generation of redia. On a lowering of temperature, the *cercariae* are produced inside the redia, which leave the snail in swarms. On coming in contact with a water weed, or a blade of grass, they creep over its surface. After a while they adhere to the plant by means of the suckers and the tail are lost The cystogenous granules are extruded, the body of the cercaria rounds off and the hallow of granules condenses into a thick cyst wall which hardens on exposure. The formation of the cyst is completed within half an hour from the time of attachment of the cercaria to the grass blade. The larva contained in the cyst is known as *metacercaria*, which is infective. Such cysts are found on the blades of grass. The definitive hosts become infected by ingesting the metacercariae deposited on the vegetation. After ingestion, the cysts are dissolved by the digestive juices, the metacercariae become liberated and burrow into the intestinal wall, ultimately reaching the liver via the blood-stream or by crawling along the bile-duct, but the usual route is through the peritoneal cavity, after penetrating the intestinal wall. The migrating parasites finally enter the liver, after about a week. They increase in size, wander in the liver parenchyma and finally reach the

bileduct where they become mature two or three months after infection.

The wandering flukes cause some haemorrhage in the peritoneal cavity, cystic enlargement of the bile-ducts, cirrhosis of the liver and blockade of the bile-ducts, resulting in jaundice and in the formation of gall-stones and production of haemolytic toxin.

In the beginning, the affected animal shows, a tendency to grow fatter on account of the excessive secretion of the bile and the consequent increase in the assimilation of fat. The typical clinical symptoms appear later, when the animal becomes anaemic, constipated, emaciated, and the coat rough and brittle. Thus the animals become very debilitated, suffer from diarrhoea and die in an emaciated condition.

Fasciola hepatica (Linnaeus, 1758)-This species occurs in the bile-ducts of cattle, buffaloes, sheep and goats in this country. However, it is not so common as *F. gigantica.* Its life-history has not been worked out in India, but, in other countries, species of the molluscan genera *Limnaea, Galba, Fossaria, Pseudosuccinia, Physopsis, Bulinus* etc. act as the intermediate hosts.

The life-history of the fluke was first worked out by Leuckart in 1882, and the details are contained in the text-books.

The pathogenicity and symptoms are similar to those produced by *F. gigantica.*

Dicrocoelium dendriticum (Rudolphi, 1819)—This is a small liver-fluke found in the bile-ducts of the cattle, sheep and goats in this country. It is more common in the hilly tracts than in the plains. The alimentary canal and the genital glands are simple and the ovary is situated posterior to the testes.

The intermediate hosts of this species are the land snails. The miracidia hatch in the gut of the snail and migrate to the mesenteric glands, where they grow into polymorphus sporocysts devoid of cuticle. These produce a second generation of sporo-

cysts provided with cuticle and a birth-pore. The latter produce cercariae known as *Cercaria vitrina*. The cercaria emerge from the sprocysts in damp weather and clump together in masses of 200-400 on the vegetation. The definitive host acquires the infection by ingesting the caercariae from the vegetation. Five months after infection, the parasites grow to maturity.

Since the flukes are very small, they penetrate into the finer bilary tubules and produce cirrhosis of the liver. They do not produce clinical symptoms unless present in large numbers. In the latter case, the symptoms are, more or less, analogous to those produced by *F. gigantica*.

Furytrema pancreaticum (Janson, 1889)—This fluke is usually found in the pancreatic ducts and rarely in the bile-ducts and the duodenum of the cattle in this country. The testes are symmetrically situated, slightly behind the level of the ventral sucker. The ovary is situated near the mid line behind the testes. The life-cycle is unknown.

The parasites induce chronic inflammation of the walls of the glandular ducts, leading to their occlusion. Occasionally, the duct walls become dilated and cystic. Necrotic foci may also result. Glandular tissue is destroyed and the affected animals suffer from progressive anaemia and emaciation.

Amphistomes

These flukes are usually conical and have the acetabulum situated at the posterior end of the body. Numerous species of amphistomes have been recorded from the rumen of cattle in this country, but the only species which has pathological significance is *Cotylophoron cotylophorum*.

Cotylophoron cotylophorum (Fischoeder, 1901)—This species occurs in the rumen of cattle and sheep in this country. It has a well-developed genital sucker. The intermediate host in India is the common round snail, *Indoplanorbis exustus*. The cercaria encyst on grass or on other vegetable matter. The metacercariae after being ingested by the host are liberated in the intestine,

where they settle down for the first part of their life. They become attached to the mucosa of the intestine, large and small and after six to eight weeks, the flukes migrate towards the rumen and mature in two to four months.

The adults are harmless but the immature forms, inhabiting the intestines, irritate of the mucosa, thereby resulting in diarrhoea. They also cause haemorrhage in the intestinal lumen, and, consequently, the stools may be stained with blood. There may be an outbreak in an epidemic form when a large number of animals are decimated.

Schistosomes

Unlike other trematodes this group of flukes is characterized by sexually differentiated individuals. The male is short and stout and the female long and slender. The female is carried, mainly during copulation, in the gynaecophoric canal of the male, which is present on its ventral surface. These flukes parasitize the vascular system of the animals.

Four species of schistosomes have so far been recorded from cattle in India, viz., *Ornithobilharzia bomfordi* and *Schistosoma spindalis* from the mesenteric veins, *S. indicum* from the portal, pancreatic, pelvic, hepatic and mesenteric veins and *S. nasalis* from the veins of the nasal mucosa. The eggs of these parasities are very characteristic. *O. bomfordi* and *S. indicum* have an oval egg, with a terminal spine. Those of *S. spindalis* are elongate, flat on one side and possess a terminal spine. Those of *S. nasalis* are boomerang-shaped, with a terminal spine. *O. bomfordi* have at least 60 testes, while the number of testes in other species varies from three to twelve.

The life-histories of only two species have been worked out in India, viz., that of *S. spindalis* and of *S. nasalis*. Among the schistosomes, the life-history is somewhat different from that in other groups. In the case of *S. spindalis*, the eggs are passed in faeces and those of *S. nasalis* are voided out in the nasal discharge. The miracidia develop inside the eggs and hatch out

of them when the latter come in contact with water. The intermediate hosts of *S. spindalis* are *Indoplanorbis exustus* and *Limnaea acuminate* and those of *S. nasalis* are *L. luteola*, *L. acuminata* and *Indoplanorbis exustus.* The miracidium, on coming in contact with an appropriate species of mollusc, enters its body and becomes transformed into a sporocyst. This later develops inside it another generation of sporocysts. In the latter, the cercariae develop, leave the mollusc periodically and come out in the water. The schistosome cercariae are furcocercous, i.e., they have a bifid tail. The cercaria of *S. spindalis* is distinguishable from those of *S. nasalis* by having four pairs of flame-cells in the body, instead of three pairs. On coming to the surface of the water, the cercariae adhere to it by their ventral sucker. When the cattle wade through or drink the "infected water", the cercariae come in contact with their skin or the mucous membrane of their mouths or of their noses. As the water evaporates, they penetrate into the skin or the mucous memberane and cast off their tails. Penetration is effected by the anterior end with the help of the secretion of the penetration glands. In the case of *S. nasalis*, the metacercariae enter the venules of the nasal mucous membrane, where they turn into adults. In the case of *S. spindalis*, the metacercariae gain access to the peripheral venules through which they reach the heart from which again they pass into the pulmonary capillaries. From the latter, they reach the pulmonary venules, after which they pass through the left heart into the systemic circulation. Only those that survive all this ordeal gain access to the mesenteric veins, the rest of them are filtered out as foreign protein emboil.

S. spindalis causes loss of condition, diarrhoea, constipation, exhaustion and death. Haemorrhage is caused by the eggs in escaping from the mesenteric venules into the lumen of the intestine. The stools may consequently contain mucous stained with blood.

S. nasalis causes the "snoring disease" of cattle, which is prevalent in Assam, Bengal, Bihar, Orissa, Bombay, Central Provinces, Hyderabad, Madras, Mysore and probably also Sind. The parasites cause granulomatous outgrowths of the nasal mucosa

and there is muco-purulent discharge through the nose, which contains the ova of the worm. In the beginning, there are symptoms of coryza accompanid with sneezing and these are later succeeded by dyspnoea and loud snoring.

Cestoda

Two species of adult tapeworms and. three larval forms are found in the cattle in this country. The adult tapeworms found in cattle have their scolices unarmed and without a rostellum and occur in the intestine.

Moniezia expansa (Rudolphi, 1810)—This is a very common tapeworm parasite of the cattle in India. It is also found in the sheep, goats, buffaloes and camels. Each segment has a double set of genitalia. The eggs are somewhat triangular, containing a well-developed pyriform apparatus. The worm is said to be very prolific ; a single worm producing 75 to 100 segments per day and each containing about 12,000 eggs, so that a single worm can produce about 1,000,000 eggs per day,

The life-cycle of *Moniezia expansa* was a great riddle to the helminthologists all over the world for a long time. Stunkard in 1937, however, demonstrated that mites of the genus *Galumna* act as vectors in the life-cycle of this tapeworm. The ripe segments or the ova of the worm are passed out in the faeces of the host. As a result of this, the ova become scattered over the soil and the vegetation. When the mites ingest the ova, the onchospheres with six hooks are liberated into their intestine. The onchosphere then penetrates through the wall of the intestine and arrives in the body-cavity. Here it first becomes spherical and then vermiform. After attaining the vermiform stage, a congregation of cells produces the suckers at the anterior end. The scolex is formed and is retracted into the anterior portion of the larva and this portion forms a spherical cyst. The posterior part of the larva, where the hooks of the original onchosphere persist, becomes the tail-like appendage or cercomere. Thus the *cysticerciod* is formed. It takes two to five months to form a mature cysticercoid from the onchosphere. When the infected mites

are ingested, the cysticercoids are freed into the intestine of the host, which then develop into strobilate cestodes.

Usually animals under six months of age are affected, but even adults may become infected. The affected animals show a loss of vigour, stunted growth, anaemia and occasionally nervous symptoms due to the secretion of toxins.

Avitellina centripunctata (Rivolta, 1874)—This is the second species of adult cestode found in the intestine of cattle in India. Unlike *Moniezia expansa*, it possesses only a single set of genitalia in each segment. In this tapeworm, there is a chain of pear--shaped par-uterine organs running centrally through the mature and gravid proglottids. The vitelline gland is absent, the eggs have no pyriform apparatus and the life-cycle is unknown.

These tapeworms occur more frequently in the adult animals. They are not very harmful but, when present in large numbers, produce symptoms akin to those due to *M. expansa*.

Larval Cestodes

Hydatid—This is the larval stage of the minute tapeworm of dogs, *Echinococcus granulosus*. It occurs in all domestic animals and also in man. The usual seat is the liver or the lungs, but it may be found in the kidney, spleen, intestine, peritoneal lining, genital organs, heart, brain and the muscles.

The infection of the cattle takes place by water or grass fouled by the faeces of infected dogs. The eggs hatch in the duodemum of the host, the hexacanth embryos or the onchospheres migrates through the intestinal wall, enter the mesenteric venules and become lodged in the capillaries of the various organs and tissues. The host then forms a fibrous sheath around them, brood capsules bud off from the inner wall of the cysts and from within them the characteristic scolices develop which become invaginated into their own bodies. The brood capsules as well as the scolices may become free from the walls to which they are attached and then these are collectively known as "hydatid sand". The typical cyst described above is the *Unilocular* cyst

and is the one commonly prevalent in man. The "*Echinococcus multilocularis*" of cattle liver is a conglomeration of sterile bladders separated from one another by means of fibrous tissue. The cyst as well as the brood capsules are tensely filled with a fluid. Roots grow out into the neighbouring tissue and continue to grow as a malignant tumour. These are called *alveolar* cysts. The third variety, the *osseous hydatid*, is found in bones. This is essentially a simple unilocular cyst which has not assumed the usual spherical character, but travels along the bony canal frequently eroding the limiting osseous tissue. The hydatid cyst may grow for several years and even assume the size of a small football.

In the cattle, the hydatid cyst of the lungs may cause dyspnoea and respiratory trouble, and in the liver digestive disturbances leading to jaundice or ascitis.

Cysticercus tenuicollis—This is the larval stage of the tapeworm of dogs, *Taenia hydatigena*. It occurs in the body cavity of the cattle and in the domestic ruminants also.

Cattle become infected by ingesting the ova of *Taenia hydatigena* passed in the faeces of dogs. The onchosphere, on being freed, penetrates the intestinal wall and reaches the liver. From here it may enter the portal vessels and the posterior vena cava, or it may burrow through the liver and arrive in the peritoneal cavity.

The adult cysts cause no harm, but the migrating cysticerci while breaking through the liver cause haemorrhage leaving behind a track of detritus. In severe cases of haemorrhage the destruction of the liver is so great that the animal succumbs. Peritonitis frequently develops. Only the young animals are usually affected.

Mention is often made by writers of the occurrence of *measles* in cattle which is due to *Cysticercus bovis*. This is the larval stage of the beef tapeworm of man, *Taenia saginata*.

Cattle acquire the infection by ingesting the ova of *Taenia saginata* passed in the faeces by man. The onchospheres on libera-

tion penetrate the wall of the intestine, pass through the blood-stream or the lymph channels and finally settle down in the muscles. Some time after completing the development, the cysticerci die and become calcified.

Nematoda

Ascaris vitulorum (Goeze, 1782)—This worm, resembling the human *Ascaris*, occurs in the samll intestine of cattle and buffaloes. The male measures 15-25 cms. in length and the female 22-30 cm.

The eggs, when they leave the host, are unsegmented. They develop active embryos within them in about three weeks. For further development, they need a temperature lower than that of the animal body, a little of moisture and oxygen. Eggs exposed directly to the sun do not survive. The infection of cattle occurs by the ingestion of the infective ova deposited on grass or in the drinking water. On reaching the intestine of the host, the eggs hatch. These do not grow to maturity directly into the intestine, but undergo a course of migration through the liver, heart and the lungs by way of the blood stream. After arriving in the lungs, they usually break through the pulmonary capillaries and crawl up the bronchi and trachea to the epiglottis. From here they pass down to the small intestine, where they develop into adult males and females. This journey takes ten days and the larvae moult twice during this sojourn. The fourth ecdysis takes place in the intestine . The period required for the development of the adults from the time of infection of the host is two to two-and-a-half months.

The young calves are more affected than the adults who suffer from loss of appetite, paleness of the conjunctiva, dullness and exhaustion.

Stomach Worms

The worms found in the stomach of the cattle in India are *Ostertagia*, *Cooperia*, *Nematodirus*, *Gongylonema*, *Capillaria*, *Haemonchus* and *Mecistocirrus*. Of these the representatives of the last

two are very pathogenic and, therefore, these alone deserve to be mentioned here.

Haemonchus contortus (Rudolphi, 1803)—The males measure 10-20 mm. in length and the females 18-30 mm.

The eggs passed in the faeces of the host are segmented. Fourteen to nineteen hours after evacuation they hatch into the first-stage larvae. These are rhabditiform larvae and are active in the begining. A day after the eggs are laid, a sheath is formed round them and the first-stage larvae come to a standstill and enters the first lethargus. This marks the begining of the second stage. The larvae come out of the sheath and enter the second lethargus 80 hours after being laid. A sheath is formed around each and the larvae enter the third or the inefctive stage. The optimum temperature for them is 35°C. They are resistant to exposure and to a lowering of the temperature. Complete desiccation is not tolerated by them as they prefer moisture. When dryness sets in, they cluster together. They thrive on shrivelled grass and crawl on it in favourable conditions of moisture, temperature and light. They shun bright light and this accounts for their ascent on grass blades at night and in dull weather and descent in the day when the sun is bright.

The infection of the host occurs per os either through drinking water or by ingesting larvae from the grasses. The larvae take a fortnight from the time of infection to become adults. The infective larvae reach the abomasum and undergo ecdysis. The moulted larvae take shelter in the mucosa of the stomach. They enter the third lethargus 30 to 36 hours after the infection. This lethargus lasts for 12 hours after which the third ecdysis takes place and the larvae enter the fourth stage. The fourth-stage larvae attach themselves to the mucosa and produce haemorrhage which coagulates. The coagulum surround the larvae. This occurs 3 days after the infection. From the 4th to the 6th day the male and the female larvae are distinguishable. Seven days after the infection, the larvae enter the fourth lethargus which lasts for 24 hours. The fourth ecdysis takes place from

the 9th to the 11th day when the larvae attain the fifth-stage approaching the adults. On the 18th day the coagula disappear, worms copulate and the female begins to lay eggs.

The worms are blood suckers and in cases of severe infection produce anaemia, progressive emaciation and weakness. Finally there is exhaustion, prostration and death.

Mecistocirrus digitatus (von Linstow, 1906)—This is the largest stomach worm of the cattle. The life-history is essentially similar to that of *Haemonchus contortus*, except that the infective stage is reached in seven days.

The symptoms are similar to those of *Haemonchus contortus*. The young calves are more liable to infection than the adults. The infection is particularly heavy in Bihar and Assam.

Hookworms

Three species of hookworms have been recorded from cattle in India, viz., *Bunostomum phlebostomum*, *B. trigonocephalum* and *B. bovis*. Of these the first two are found in the intestine and the duodenum of the host and the last one in the abomasum.

The eggs are segmented when passed out by the host, the first-stage larvae hatching after 24 hours. A day later, the larvae become quiescent and change into the second-stage larvae. A new cuticle is formed around them, ecdysis takes place and the larvae become active again. They again become quiescent after 24 hours and the second moult occurs. The larvae are then transformed into the infective stage-the third stage larvae. These are resistant to desiccation. The infection of the host occurs per os or via the skin. The larvae pass into the lungs by the same route as the *Ascaris* larvae. The third ecdysis takes place in the lungs. The fourthstage larvae reach the intestine from the lungs after 11 days. The eggs are passed in the faeces of the host.

The worms suck the blood and liberate anticoagulatory and haemolytic toxins. The essential symptoms are progressive

anaemia, "bottle-jaw" condition, weakness, emaciation, dryness of the skin and diminished appetite. Finally there is prostration and death.

Nodular Worm

The common nodular worm affecting cattle in India is *Oesophagostomum radiatum*. The eggs hatch into the first-stage larvae 12 to 14 hours after being laid. This stage lasts for 24 hours and is divided into two sub-stages—active and lethargic. After the termination of the lethargic stage, a sheath is formed around them and an ecdysis takes place. The larvae then become transformed into the second stage which lasts for 50 hours. Once again there are two sub-stages—the active one lasting for about 35 hours and then followed by the lethargic stage. In the meanwhile. a second skin is formed round these larvae which is not cast. The larvae then enter the third stage, which is the infective one. At this stage, larvae are very active but do not undergo any further change until they are transferred to the definitive host. These larvae are migratory in habit and do not feed. The animals become infected while grazing. Further development takes place when the larvae lurking on grass are transferred to the host. The infection takes place per os. The infective larvae on reaching the intestine undergo a second ecdysis, penetrate its walls and form nodules. In the nodule the third ecdysis takes place and the larvae enter the fourth stage. Some days later. the fourth stage larvae return to the lumen of the intestine and travel towards the caecum and the colon. During this time, the fourth ecdysis takes place and the larvae attain the fifth stage. These turn into adults and attain maturity in the colon of the host.

The nodular disease in cattle is not so serious as it is in sheep and goats. It is, however, of some economic importance because nodulated intestines become unsuitable for the sausage industry.

Worms of the Respiratory Tract

Dictyocaulus viviparus and *Syngamus laryngeus* are the two species of round worms occurring in the respiratory tract of the cattle in India.

Dictyocaulus viviparus (Bloch, 1782) inhabits the bronchi of the cattle. The eggs may hatch in the lungs, but are usually coughed up and swallowed, and hatch in passing through the digestive tract of the host. Some eggs may be expelled in the nasal dischare or in the sputum. The first-stage larvae are voided out in the faeces and become transformed into the second stage larvae in one or two days. The cuticle is, however, not shed until the third stage is reached, so that the larvae are for some time enclosed in two sheaths. The first sheath is then cast off, but the second one is retained for protection. This is the third or the infective stage. This stage is reached in about four days when they become very active and can withstand moderately dry conditions for a while. In moist conditions, they can survive for several months and are even resistant to low temperature. Infection of the host takes place per os. More details of the development of this species are not known at present.

Usually only calves are affected and suffer from a characteristic spasmodic cough or "husk" which may become stronger and more frequent, accompanied with symptoms of suffocation. In chronic cases, the usual symptoms of emaciation, anaemia and diarrhoea are present. The animals ultimately die from weakness or suffocation.

Syngamus laryngeus (Montagu, 1811)—The male, measuring 2.6 to 5 mm. in length, is smaller than the female which is 7 to 20 mm. long. The male is permanently attached to the vulva of the female by its dimunitive bursa. The vulva is situated in the anterior one-fourth of the body. The life-history of this parasite is unknown. This species inhabits the larynx of cattle and buffaloes and the affected cattle cough, lose condition and develop bronchitis.

The Eye Worm

Thelazia rhodesii (Desmarest, 1828)—This is milky-white worm occurring in the lachrymal ducts of cattle and buffaloes in India. The male is 8 to 14 mm. long and the female is 12 to

24 mm. long and the vulva is situated about 1 mm. from the anterior end of the body. Its life-cycle is unknown.

The worms produce tenderness, persistant opacity of the cornea, epiphora and photophobia.

The Skin Worms

Parafilaria bovicola (Tubangui, 1934)—This is a very common worm of cattle in this country. A different species affects the horses. Tubangui described only the females of the species and the male yet remains to be described.

The female measures 37.3 to 43 mm. in length. The life-cycle is unknown.

The worms live in the subcutaneous and intermuscular connective tissue and produce subcutaneous nodules which appear on the surface suddenly, break open, bleed and heal up. The worms can be squeezed out of the open nodules which appear in summer, disappear in winter and again re-appear in the following summer.

Stephanofilaria assamensis (Pande, 1935)—The Hump Sore of the cattle common in certain parts of India such as Bengal, Bihar, Assam and Orissa is produced by the adults and the larvae of the *S. assamensis.* The male measures 3 to 4.5 mm. in length, the female 7 to 9.5 mm.

The lesions usually occur in or near the region of the hump. In rare cases, they may be found at the yoke place on the neck or at the anterior margin of the scapula. These lesions are quiescent in the cold weather but active during the monsoon period and cause acute pruritis.

Ochocerca gibsoni (Clevland & Johnston, 1910)—This worm forms subcutaneous nodules which occur especially on the brisket and the external surface of the hind limb of the cattle. The life-cycle is unknown, but a blood-sucking arthropod is believed to act as a vector.

The parasites at first wander about in the connective tissue, and, later on coming to rest, form a nodule around them. The nodule is ovoid, flat and may have a diameter of 5 cm. It consists of tunnels containing the coils of the worm. In older nodules, degeneration of the tissue and calcification frequently take place.

The infected animals show no symptoms except the nodular swellings under the skin. The infected carcases lose the market value. The parasites, therefore, cause an economic loss.

PART V. FISH FOR FOOD AND OTHER PRODUCTS.

The Indian diet is largely starchy, because the people feed largely on rice, millets and cereals. Nutrition experts have often pointed out that the Indian diet is deficient, not only because the proteins are wanting in it, but also because of the shortage of minerals. The national income *per capita* being low, it is beyond the purchasing capacity of the comman man to supplement his meals with either a liberal quantum of meat, fish, eggs, vegetables or fruits. More than fifty per cent of the people have to be content with just one meal a day and that too consisting of rice, potatoes, sweet-potatoes with a pinch of salt and chillies, or else they have to be content with gruel only. The research work done in the Nutrition Laboratory at Coonoor has shown that the nutritive value of the diet of an average Indian is very poor for sustaining his stamina or health and a supplement of fish, meat or eggs is urgently required. But, as pointed out above, these items are beyond the purchasing power of the common man.

The health of the common man in India is a question of paramount importance because man-power is the greatest asset of the country. During the Second World War, on account of the stationing of troops on the Burma and Assam Fronts, a large number of milch cattle (buffalos, cows, sheep and goats etc.) had to be slaughtered to supply meat to the army, and the overall position in regard to the availability of meat to the common man has, therefore, worsened more. The poultry industry in India is still in an infant stage and the cost of the eggs in the market is prohibitive being two annas per egg.

In recent years, the Government of India has been paying a great deal of attention to fishery development and a big Directorate of Fisheries (Fresh-water, Estuarine and Marine) has been set up in order to develop the fishery resources of the country. The aim of this wing of our national activity is to propagate and capture fisheries on a large scale so as to make an increased supply of fish possible.

Food Value of Fishes

According to the work of Atwater, the fish is an excellent source of protein. It provides a good energy food and is also charged with minerals and vitamins. The percentage of protein in fishes varies from 15 to 20 per cent. Pottinger and Baldwin found that "five of the essential amino-acids vary somewhat from species to species but were present on the whole in amounts that compared favourably with the amounts found in proteins from beef, eggs, and milk". The marine or fresh-water fishes contain practically no carbohydrates and, for this reason, the fish is considered to be superior to the cereals in which percentage of carbobydrates is high and the proteins are generally less than 5 to 10 per cent Calcium, Phosphorous, Potassium and other minerals are 1-2% of the edible part of the fish. The marine fishes are richer in iodine content than the fresh-water ones. The roe of the fish, whether fresh-water or marine, contains "five times as much iodine as is normally present in the flesh". The fish liver is a well-known source of vitamines A and D, but fishes contain other vitamins also. Vitamins Bl (Thiamine), B2 (also called Vitamin G and Riboflavin) also occur in the flesh of the fish in the same degree as in meat. Most of the research work on the vitamins of fishes has been done on marine fishes and the data about the fresh-water fishes are scarce. The fat is invariably present in fish but it varies in different parts of the same individual. It is said that more fat is present towards the head than towards the tail. The percentage of fat varies, within wide limits, being 0.17% in the Haddock and 32.88% in the eel. The caloric value of certain edible fresh-water fishes is mentioned below in order to give an idea of their relative suitability as energizing food.

Cat-fish	Shad (Hilsa)	Carp
1000 calories	600 to 700 calories	400 to 500 calories

It will, therefore, be seen that the caloric value of the fishes per average pound of their edible portion is fairly high.

Marine and Inland Fishery Resources

"India has considerable marine and inland fishery reasources but the extent of these resources has not been properly assessed so far. Judged by the fact that there is a coast line of some 2,900 mines, a continental shelf, from the shore to the 100 fathom line, of more than 1,000,000 square miles into which numerous large and perennial rivers discharge their silt-laden waters ; two wide arms of the Indian Ocean, the Bay of Bengal and the Arabian Sea, a number of smaller gulfs and bays all along the coast, a large number of small oceanic islands with their innumerable creeks, bays, mangroved swamps and extensive coral reefs, the marine fishery resource must be fairly extensive. Similarly the extensive back waters, tidal estuaries, lagoons and swamps scattered along the entire coast line, a large number of rivers, streams and channel and an enormous number of perennial and semi-perennial lakes, 'beels' reservoirs, tanks, ponds and other stretches of water most of which, though culturable, are almost fallow at present, are a rich *potential* source of inland fisheries. Both these resources, apart from being unestimated, are at present far from fully exploited or developed".

"The total annual production of fish in India was estimated in 1948 at 142.1 lakh maunds (1169 million pounds), of which two-thirds consists of sea fish. Fish is eaten by nearly 50% of the population in India, but the *per capita* consumption is estimated only at 3.36 pounds per year, which is much less than that in many other countries. It has been roughly estimate that production of fish in India must be increased by about 10 times if the people are to have an adequate supply of this highly nutritious and protective food".

Food Fishes

The fish fauna of the Indian water, both fresh and marine, is very rich and several varieties of fish are commonly used by the people, but certain species of fish have become a favourite of the consumers and there is a great demand for them in the market. The poor classes of people will of course eat anything, and, on account of limitation of their resources, cannot make

a choice. The better class of people have, from past experience, acquired a taste for certain kinds of fishes and we find that a kind of regional preference for certain kinds of fishes exists. In North India the following fishes are in great demand.

(i) *Labeo rohita*
(ii) *Hilsa ilisha*
(iii) *Cirrhina mirgala*
(iv) *Rita rita*
(v) *Pangasius pangasius*
(vi) *Macrones seenghala*
(vii) *Wallago attu*
(viii) *Notopterus chitala*
(ix) *Ophiocephalus striatus*
(x) *Ophiocephalus marulius*
(xi) *Silondia gangetica*

On the West coast, the following kinds of fishes are in demand by the consumers :

(i) *Sardin ella*,
(ii) *Kowala*,
(ii) *Dussumeria*,
(iv) *Chanos*,
(v) *Engraulis*,
(vi) *Stolephorus*,
(vii) *Polynemus*,
(viii) *Elentheronema*,
(ix) *Gerres*,
(x) *Upeneus*,
(xi) *Stromateus*
(xii) *Lactarius*,
(xiii) *Trichiurus*,
(xiv) *Thynnus*,
(xv) *Euthynnus*.

On comparing this list with the previous one, it will be noted that most of these fishes are marine. The fresh-water genera, which are in demand in North India, are mostly wanting in this list. Of course, people living in the area watered by Narbada and Tapti rivers will, of course, be consuming fresh-water species. But the people living on the West coast from Bombay to Mangalore use the fishes listed above. As we go down the West Coast, from Mangalore to Trivandrum, we find that the preference for marine fishes persists. This may be explained by the easy availability of the marine fishes as compared to the fresh-water ones in these parts. It should be remembered that the three important rivers of the peninsular part of India, run eastward from the west, and the people of the West Coast have, really speaking, no easy access to the fresh-water fishes, excepting the ones that may be had from the ponds, lakes, or other temporary reservoirs of water. On the Kerala Coast, ***Setipinna phasa*, *Mugil corsula*, *Labeo fimbriatus*, *Labeo kontius*,**

Barbus carnaticus, *Etroplus suratenensis*, *Osphronemus gourami* are very much in demand. These again are marine species and, since they are abundantly available on the sea-board, the people have acquired a taste for them.

Turning now to the East Coast, according to Devanasen and Chidambaram's valuable publication on the "*Common Food Fishes of the Madras State*", cartilagenous, marine and fresh-water teleosts are used by the people of the Eastern Coast. The following remark of these authors is pertinent in this connection: "Sharks and rays constitute a favourite article of diet among all classes of people in the West Coast whereas in the Eastern coastal districts of Madras, they are eaten mostly by the class of people who cannot afford to buy the first class table-fishes". The various kinds of Elasmobranchs which are commercially important are the following:

(i) *Carcharinus spp.*
(ii) *Sphyrna zygaena*
(iii) *Pristis cuspidatus*
(iv) *Rhynchobatus djeddensis*
(v) *Dasyatis sephen.*

Amongst the bony teleosts, the following genera and species have been mentioned by these authors as favourite food fishes of the Madras State:

(i) *Chanos chanos*
(ii) *Chirocentrus dorab*
(iii) *Kowala thoracata*
(iv) *Sardinella spp.*
(v) *Dussumieria spp.*
(vi) *Engraulis spp.*
(vii) *Pellona spp.*
(viii) *Arius dussumieri*
(ix) *Cynoglossus sp.*
(x) *Mugil spp.*
(xi) *Eleutheronema spp.*
(xii) *Rastrelliger kanagurti*
(xiii) *Cybium spp.*
(xiv) *Thynus spp.*
(xv) *Trichiurus spp.*
(xvi) *Stromateus spp.*
(xvii) *Caranx spp.*
(xviii) *Equalla spp.*
(xix) *Lates calcifer*
(xx) *Lutjanus spp.*
(xxi) *Upenaeus spp.*
(xxii) *Sciaenidae spp.*
(xxiii) *Sillago spp.*

On comparing the lists of fishes consumed on both coasts of the peninsula we find that, while some of them are common to the two areas, certain genera and species of fishes are

liked more on the West Coast than on the East Coast. This difference may be due to the characteristic marine fish fauna of the two sides of the peninsula ; but the noteworthy point is that, on both sides of the peninsula, the marine fishes are in greater demand than the fresh-water ones.

Principal Fresh-water Fisheries

Extensive fresh-water fisheries exist in the rivers, canals, irrigation channels, pools, lakes, jheels, tanks, ponds and in the low lying areas that may contain water either throughout the year, or during a part of it.

"The Ganga, the Brahmaputra, the Mahanadi, the Narbada, and the Tapti, the Godavari, the Krishna, the Cauvery, and the Indus together with their tributaries constitute the main sources of fresh-water fisheries. These rivers and their tributaries have a total length of about 17,000 miles. Canals and irrigation channels measure about 70,000 miles in length and form a net-work throughout the country. The Loktak lake in Manipur (Assam) and the Kolar lake in Madras are also said to be large fresh-water areas of considerable fishery importance. A number of reservoirs exist in Madras Hyderabad, Mysore, Madras, Bombay and elsewhere".

Principal Fresh-water Species

The important species of fishes inhibiting the fresh-waters are as follows. They are generally in demand in the North as well as in the South.

I. Carps :
- (i) *Catla catla*
- (ii) *Labeo rohita*
- (iii) *Labeo calbasu*
- (iv) *Labeo fimbriatus*
- (v) *Cirrhina mrigala*
- (vi) *Barbus spp.*

II. Cat-fishes :
- (i) *Wallago attu*
- (ii) *Bagarius bagarius*
- (iii) *Pangasus pangasius*

(iv) *Silonia silondia*
(v) *Mystus seenghala*
(vi) *Mystus aor*
(vii) *Eutropiicthys vacha*
(viii) *Rita rita*
(ix) *Callichrous bimaculatus*

III. Feather backs :
(i) *Notopterus chitala*
(ii) *Notopterus notopterus*

IV. Herrings and Anchovies :
(i) *Hilsa ilisha*
(ii) *Setipinna phasa*

V. Live fishes :
(i) *Clarius magur*
(ii) *Heteropneustis fossilis*
(iii) *Anabas testudineus*
(iv) *Ophicephalus spp.*

VI. Mullets :
(i) *Mugil (Liza) corsula*

VII. Eels :
(i) *Anguilla bengalensis*
(ii) *Amphipnous cuchia*
(iii) *Mastacembalus armatus*

There are considerable areas of stagnant fresh-waters in India. The bulk of it remains unutilized but ponds and village tanks are often stocked with fry obtained from the rivers. The following species are generally reared in the ponds and tanks :—

(i) *Catla catla*
(ii) *Labeo rohita*
(iii) *Labeo funbriatus*
(iv) *Labeo calbasu*
(v) *Labeo kontius*
(vi) *Labeo bata*
(vii) *Cirrihina mrigala*
(viii) *Cirrihina cirrhosa*
(ix) *Cirrihina reba*
(x) *Barbus karnaticus*
(xi) *Cyprinus carpio*
(xii) *Etroplus suratensis*
(xiii) *Clarius magur*
(xiv) *Heteropeneustis fossilis*
(xv) *Anabas scandens*
(xvi) *Osphronemus gaurami*
(xvii) *Chanos chanos*
(xviii) *Mugil cephalus*
(xix) *Ophicephalus marulius*
(xx) *O.striatus*

Estuarine Fisheries

Estuarine fisheries are mostly marine species that can tolerate a change in salinity. At the mouth of most of the rivers, we find a

number of species that inhabit the mixed waters. Herrings, anchovies and sprats, mullets, cat fishes, gem fishes, thread fins, perches, gar fishes, Bombay duck, silver bellies, eels, flat fishes, sharks and rays are commonly met with in such waters. There are several clupeids in the estuarine areas among which the most important are (i) *Hilsa ilisha*, (il) *Nematolosa nasus* (iii) *Anchoviella spp.* (iv) *Phrissocles spp.* (v) *Pellona spp.* (vi) *Anandontostma chacunda* (vii) *Setipinna spp.* The most important among the estuarine cat-fishes are :

(i) *Arius spp.*
(ii) *Osteogeniosus militaris*
(iii) *Pangasius pangasius*
(iv) *Mystus sp.*

Strictly speaking, the cat-fishes do not belong to the category of primary components of the estuarine fisheries like the *bekti*, *hilsa*, pearlspot or threadfin ; but in estuaries that are extensive enough, the cat-fishes move from the freshwaters seaward, while the cat-fishes of the sea move up the stream. Among the estuarine perches, the following species may be mentioned :

(i) *Lates calcarifer*
(ii) *Epinephelus tanurina*
(iii) *Etroplus suratensis*
(iv) *Etroplus maculatus*
(v) *Lutjanus spp.*
(vi) *Ambassis spp.*
(vii) *Therapon spp.*
(viii) *Otolithus sp.*

Important species of thread fins found in the estuarine waters are :

(i) *Eleurotheronema tetradactylum*
(ii) *Polynemus indicus*
(iii) *Polynemus paradiscus*

Principal Marine Fisheries

The clupeoids of the Indian marine waters are the sardines *(Sardinella)*, Anchovies *(Thrissocles)*, White bait *(Anchoviella)*, rainbow sardine *(Dussumieria)* and White sardine *(Kowala)*. The oil sardine *(Sardinella longiceps)* is a very valuable fish owing to its food value and commercial importance. It is confined to the West Coast, and is rarely found on the East Coast. The oil sardines at times move in large shoals on the Kanara and Malabar coasts. The oil of these sardines is put to use in the leather,

jute and steel industries. Sardine guano is used as manure in the coffee, tea, cocoanut, sugarcane and tobacco plantations.

The mackerel is also an important commercial fish on the West Coast. Three species of mackerel occur in Indian waters, namely,

(i) *Scomber microlepidotus*
(ii) *Scomber brachysoma*
(iii) *Somber jamsaba*
(iv) *Rastrelliger kanagurta*

Rastrelliger kanagurta is a commercially important species and occurs on the West Coast of India as well as on the East Coast as far as Ganjam.

Several commercially important species of sharks and rays exist in the coastal waters of India and constitute a sizeable part of the catches. The genera generally fished are :

(i) *Galeocerdo*
(ii) *Carcharimus hypoprion*
(iii) *Scoliodon*
(iv) *Sphyrna*
(v) *Chiloscyllium*
(vi) *Stegostoma*
(vii) *Ginglimostoma*
(viii) *Trygon*
(ix) *Actobatis*
(x) *Myliobatis*
(xi) *Pristis*
(xii) *Rhinobatus*

Sharks and rays are also valued for the oil that is contained in their liver. India used to import about 1,65,000 lbs. of Cod-liver oil every year. The shark liver oil is a cheap source of Vitamins A and D. The extraction of shark liver oil, on a commercial scale, has been begun in Bengal, Madras, Travancore, Cochin and Bombay. Surplus quantities of sharks and rays are converted into fish-meal and manure. The Bombay duck fishery is confined to the Bombay Coast and consists exclusively of *Harpodon neherus.* Bulk of the catch is dried in the sun.

The ribbon fishes of the family Trichiuridae also constitute an important fishery on the Madras Coast.

The East and the West Coast compared

The marine and the estuarine fisheries of the East and the West coast are different in composition. The characteristic contents of the west coast fisheries are : (i) Bombay duck *(Harpodon*

neherus) (ii) the Mackerel *(Rastrelliger kalagurta)* (iii) Malabar oil sardine *(Sardinella longiceps)*, (iv) Anchovies *(Setipinna phasa)*, (v) *Polynemus* and (vi) Pomfrets *(Stromateus)*. The East coast fisheries consist of (i) the ribbon fish *(Trichiurus)*, (ii) *Cybium*, (iii) *Lactarius*, (iv) *Engraulis* (v) *Pellona*, (vi) *Stromateus*, (vii) *Sardinella*, (viii) *Leiognathus* (ix) *Carnax* and (x) *Chirocentrus*.

"It would be seen that the fisheries of the East coast are more diversified than those of the West. The West coast fishery has a coast line of about 1500 miles from Cape Comorin to the north of Kutch and the fishable area on the continental shelf is roughly 65,000 square miles. The richness of this fishery is mainly due to the presence in this area of two commercially important shoaling seecies, the oil Sardines and the Mackerel".

Fish Products

(a) *Fish Oil*

Oils derived from Sardines, Mackerels and Cat-fishes are put to many uses. The medicinal oil, however, is obtained from the livers of sharks, saw-fishes, skates and rays. "The ivers are first bled, washed with water, cut into pieces and then boiled with sufficient quantity of water. The oil which separates is decanted off. It is washed repeatedly with hot water and filtered through flannel cloth". In this condition, it is sold to the chemical and pharmaceutical establishments for refining and standardisation.

(b) *Fish guano*

"In Malabar and South Canara districts, the fish are boiled with sufficient water in large vessels, the oil that separates is skimmed off and the cooked fish is put into coir mat-bags and pressed in screw presses. The pressed mass is then dried in the sun and constitutes the guano of commerce". Powdered fish guano is also used as feed for pigs, cattle and poultry.

(c) *Fish Paste*

"The fish are cut into slices and salted. When dry the slices are treated with spices, chillies, mustard, garlic and tamarind" and made into a paste.

(d) *Fish manure*

Surplus fishes instead of being allowed to rot are dried in the sun on mats or on a line. When dry they are put through a grinding machine and converted into a coarse powder. This powder is used as manure as well as food in the form of soup by the poorer classes of the people living on the sea coast.

The fish is applied directly on fields as manure in the coastal areas when sardines, mackerels and horse mackerels appear in large shoals. Dried fish are also used as fertiliser in coffee and tea plantations. The waste products of the fish curing yards, commonly known as 'pit manure, are also used for manurial purpose.

(e) *Isinglass*

Isinglass was originally obtained from the air-bladder of the Sturgeon (*Acipencer*). In India, it is obtained from the air-bladder of the perches and the Indian salmon. An inferior quality of it is also obtained from the gem fishes (Scianidae) and certain species of cat-fishes. The air-bladders are opened, washed in sea water and dried in the sun. Isinglass is used as a substitute for gelatin in confectionery, in the preparation of special cements and in the clarification of wine and beer.

The position re-stated

"The production of animal husbandary products like milk eggs, and fish is relatively more deficient to the requirements of the population than agricultural products. It is estimated by the I.C.A.R. that while cereals and pulses need to be increased by ten percent and twenty percent, respectively, the production of milk, eggs and *fish* needs to be increased by *three hundred per cent each*, if a balanced diet is to be provided".

"The total annual production of fish was estimated in the report on the Marketing of Fish (1941) at 6,59,000 tons, about one third being freshwater and the remainder sea fish. On a per capita basis this amounts to 3 to 4 pounds per annum i.e., less than 0.2 ounce daily. The Fish Sub-Committee of the Policy Committee on Agriculture, Forestry and Fisheries has estimated that

fish production should be increased at least ten to eleven times of its present figure".

"Comparing the general diet consumed in the country with the standard laid down by the Nutrition Advisory Committee, the Famine Enquiry Commission conclude that the Indian diets are all deficient in protective foods".

During the years 1945/46 and 1946/47 fish and fish products of the value of eighteen lakhs of rupees were imported into India. But now the imports are declining and India is exporting fish products, mostly preserved fish and fish manure of the total value of Rs. 2,98,00,000. The destination of Indian export is largely to Ceylon, Burma and Mauritius.

The total supply of fish in the Indian Union is valued at 868 lakhs worth of sea fish and 927 lakhs worth of fresh-water fish, thereby making a total of 1.795 crores of rupees.

"In the words of Sir F. A. Nicholson, "In India an acre of average water will, with proper care, produce as great a weight of food as an acre of average land, while its money value will be much greater".

ORGANISATION OF THE PLANT COMMUNITIES

R. MISRA

The green covering of the fields means little more than grass to the layman, but to the botanist it means a great deal more. Each species that is growing, reproducing, dispersing and colonising today extends through enormous Time and Space by individuals related to it. Aggregates of certain species in their natural habitation constitute a plant community a study of which is called 'phyto-sociology.'

The organisation of any community depends upon mutual relationship obtaining between the individuals belonging to it. As such it offers maximum opportunity for self-expression, and, at the same time, for co-existence with others within a spatial area. A study of this kind is called 'ecology'. Ecology and phyto-sociology are inter-related in a wider sense, and the basic principles of both of these sciences need to be studied for correctly understanding the nature of the plant communities.

The individual plant is capable of perpetuating itself by asexual or/and sexual reproduction. Its structure, development, growth and successful existence are governed by the laws of heredity. But within the limits of heredity a series of variants arise by the re-alignment and re-distribution of the 'genes' (hereditary material) in the course of sexual reproduction. Thus the population arising out of a single individual comprises of a progeny endowed with varying capabilities and potentialities. The species is, therefore, genetically plastic, unstable and a variable entity.

Superimposed on the genotypic fluidity is phenotypic plasticity in the species that makes for structural and physiological adjustments in response to changes in the environment. The genetic material can permit such adjustments within certain limits, and if the degree of adaptation required by a drastic change in the environment is such as to exceed the limit of tolerance the species

will become decimated in that area. Hence species exist and extend through Time and Space by possessing an inherent capacity for continuous adjustment within a variable and dynamic environment.

The concept of environment is relative to the object of study. The underground and overground conditions of temperature, light, moisture, gases, winds, soil aeration, soil texture, minerals, topography, competition, etc., are some of the variable factors in sizeable areas of a community of plants. Only such plants will grow and survive in an area as by virtue of their plasticity can tolerate variations in the environment and only such of them will be most successful as will completely adapt themselves to the prevailing conditions of the environment. It will, therefore, be seen that species of plants having an overlapping range of tolerance will thrive together in similar environment.

There is continuous invasion taking place by the arrival of new plants in a given area. Seeds, spores, bulbs, vegetative parts, etc. are being dispersed far and wide by a number of agents. Only such of them will sprout forth for which suitable conditions exist . Later on vegetative growth, flowering and fruiting will also require suitable conditions for their manifestation. Since appropriate conditions cannot exist for all kinds of invaders, only some of them can survive and establish themselves successfully. There will always be a keen competetion among the plants for moisture, nutrition, space, etc. and the most aggressive ones will ultimately occupy the largest area. This is how selection works on a plant population as a result of which only the most successful ones survive in a given habitat. Hence, plants do not associate haphazardly, each group indeed has its niche or place and status in a mixed colony.

It will thus be seen that both the plant and the environment represent a dynamical system. In fact both inter-react and become modified. For instance, growth and decay of plants alter soil characteristics such as the organic and the mineral fractions and other conditions like moisture, gases, light and wind. The altered environment becomes unsuitable for the growth of the

species which brought about the change. Some of the fresh invaders, however, find the new habitat more congenial and readily establish themselves. This process may be repeated many a time and differing plant communities may occupy the same area in succession.

There will, however, result ultimately a more or less stable community in a state of equilibrium with the environment wrought by the operation of competition and selection acting through the ages. The conditions may, however, change by the passage of time and by changes in the climate in the geological periods. Therefore, the plant communities may be either 'seral' when they are still progressing or 'climax' when stabilised.

Plant communities have their origin, growth and development followed by death and decay. The community behaves like an organism. The plants within a given community are closely related to one another by competition, association, reproduction and dispersal. Changes in biotic factors brought about by cutting, lopping, grazing, mowing, fire, parasitisation, and encroachment by man affect the communities in one way or another.

The plant community shows cycles of activity as evinced by growth, leaf fall, flowering and fruiting at fixed periods of its life.

This brief account is intended to show that the communites represent organised units and are throbbing with life. A definitive plant community is not to be regarded as a haphazard aggregate of plants just lumped together.

A plant community existing in a defined habitat may be characterised by the species comprising it. The most successful species are those that occupy the maximum space collectively and are called "dominant species" since the continuance and existence of the subordinate species is controlled by them. For instance, tall trees offer shade and protection to the species growing underneath them against wind. The relative number, distributional

pattern and the area occupied by a community of plants are points of interest in such a study. Tropical forests in our country constitute complex communities with characteristic stratification of trees, shrubs and herbaceous plants. The roots by penetrating into the soil to different levels lessen the competition between the different kind of plants for moisture and nutrients and enable them to exist side by side.

WHEAT RUSTS—THEIR CAUSE AND CURE

• RAM ASARE SINGH

Wheat is a staple food of Man. More than 428 million acres of land are devoted to its production in the world. Majority of this acreage is attacked by the stem, leaf, and stripe rust in the wheat growing areas of Russia, Poland, Argentina, Southern Great Plains of North America, India, China and Australia. The three rusts are caused by different organisms-black stem rust by *Puccinia graminis*, leaf rust by *P. triticina* and stripe rust by *P. glumarum*. The magnitude of loss caused by the rust fungi attacking wheat can be judged from the statement of Stakman and Harrar (1957) "Although wheat and cereals are all susceptible to attack by many kinds of plant pathogen, the rust fungi, cause greater annual loss in wheat production than all the other pathogenic organisms attacking wheat put together." In India, the area under wheat cultivation is roughly 26.8 million acres and, according to a recent estimate, on an average, the loss in the yield of wheat amounts to Rs. 6 crores per annum.* These rusts are a limiting factor in wheat production in areas where conditions are favourable for their development.

The rusts are mentioned in the literature since times immemorial. The earliest reference available to us is dated 1360 B.C. when Moses, in his exhortation to the Israels, declared that if they failed to observe the commandments of Jehovah their crop would be distroyed by rusts and smuts. The Greek philosphers, Aristotle and Theophrastus Eresius (circa 384-286 B.C.), without having any idea of the causal agent, recorded that rust was severe in some years on account of warmth and moisture.

Strangely enough we do not come across any reference to the rust disseases in the middle ages. The correct nature of

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*The estimated loss caused by the 1947 out break of stemrust in India was Rs. 50 crores.

rust invasion could not be studied till Loewenhock (1683) invented the compound microscope. In 1767 Felice Fontana published the first figures of cereal rusts and recognised their fungal nature. Anton de Bary, the father of modern mycology, established the heteroecious nature of *P. graminis.* The origin of new races of rust could not be satisfactorily explained till 1927 when Craigie demonstrated the sexual phenomena in Uredinales and explained the part played by Pycnia. Up to the 18th century, all the wheat rusts were lumped as one, but, in the 19th century, the various species of rust became distinctly recognised.

All the three species produce characteristic symptoms on the host. *P. graminis* generally attacks stem and leaf-sheath causing brown, oblong, coalescent, erumpent uredopustules in long streaks. Later on the same uredosori become darker in colour and change into teliosori (Fig. 1). The other two rusts attack mostly the leaf blade, awn, and rarely the leaf-sheath. In stripe rust, uredosori are yellow, small, oval and arranged in rows, (Fig. 2) whereas in the case of leaf rust the uredosori are brown, oval, slightly larger than stripe rust and scattered irregularly over the lamina (Fig. 3). Teliosori, in stripe rust, occur on the under surface of the leaf or on the leaf-sheath and these are dull black in colour arranged in rows and remain intact for the whole time. In leaf rust, teliosori are similar to yellow rust but are not arranged in rows.

The heteroecions nature of wheat stem rust was determined by De Bary (1864-65) and that of brown rust by Mains and Jackson (1921), Brizgalova (1935-37). These alternate hosts are extremely important in the epidemeology of the rust fungi. On *Berberis vnlgaris* the stem rust organism produces new races by hybridization. In a similar way, *P. triticina* produces pycnia and aecia on species of *Thalictrum* and *Isopyrum* and due to the natural crossing between different races new combinations are continuously evolved which may infect the hitherto resistant varieties of wheat.

The uredospore germinates under suitable conditions of temperature and moisture and infects wheat plant (Fig 5). After

the infection becomes well established, mycelium becomes concentrated under the epidermis and produces uredospores. Due to the increasing pressure of uredospores, the epidermis ruptures and the spores are exposed. The spores are pedicillate, unicellular, binucleate, oval to spherical in shape (Fig. 4). Late in the season from the same mycelium teliosori bearing teliospores are developed, which are the resting spores meant to carry over the fungus through the unfavourable conditions. They are bicelled, diploid, and thick walled (Fig. 6). Each cell of the teliospore germinates with a 4-celled promycelium which bears four haploid sporidia belonging to two sexual phases (Fig. 7).

These sporidia infect the alternate hosts, *Berberis spp*, *Thalictrum spp.* or *Isopyrum spp* as the case may be, and produce reproductive organs (Fig. 8). Flask shaped, ostiolate pycnia produce the receptive hyphāe and the pycniospores on the upper surface of the leaves, but fertilization does not take place (Fig. 9) The fungus is heterothallic. Infection by single pycniospore is self sterile, although it produces both pycniospores and receptive hyphāe. Fertilization of receptive hyphāe occurs through the pycniospore of opposite haploid mycelium and the binucleate condition is obtained.

In the mean time, on the lower surface of the leaf aeciospores are formed in chains, which rupture the host epidermis due to pressure and become an open aecium (Fig. 9). The aecium is surrounded by a peridium. From the open aecium binucleate aeciospores are disseminated, which again infect the wheat plant (Fig. 10).

In India there are two theories for the annual occurrence of rusts. According to one, 95% of the wheat is grown in the Indo-Gangetic plain, where the summer temperature goes up to 110°F or even more for a number of days. At this time there is no wildly growing wheat in plains, hence at such a high temperature uredospores cannot survive. It is also known that in India alternate hosts play no part in the annual cycle of rusts. But 5% wheat is grown at an altitude of 3000-5500′ where wheat is

sown in April to June and the temperature is suitable for rusts, hence the rust over summers at moderate altitude till september/ November. In November/January, due to excessive cold they become inactive and in January uredospores are scattered by the winds and initiate the rust infection in plains through a series of infection foci from higher to lower hills and cause loss to the main crop.

According to the second Theory, the annual outbreak of rusts in plains of India occurs through the various grasses which are known to be the collateral hosts of wheat rusts. Mehta (1940) demonstrated the presence of *P. graminis* on *Bromus patulus*, *Brachypodium sylvaticum* and *Avena fatua* growing in Simla hills. *Bromus catharticus*, *B. japonicus* and *Hordeum murinum* were found infected in nature by *P. glumarum* at the I.A.R.I. in New Delhi. *B. catharticus* has also been reported from south India to be a collateral host of *P. glumarum* and the presence of stem rust on *Bromus coloratus*, *B. mollis*, *Hordeum distichon* and *H. murinum* has been reported under natural conditions by Prasad (1951). Hence it is quite possible that these collateral hosts may get infected in nature under suitable conditions and help the rusts in surviving the critical period and thus may play a significant part in the outbreak of rusts in the plains of India.

The ancient people had doubtless used prayers, sacrifices, feasts and various empirical recipes for the control of rusts, but no record of it is now available, . In 1620 Worlidge suggested prevention of the noxious dew by smudge fires. He also recommended that two men stretch a rope between them and drag it through the fields. This practice was also mentioned by Eriksson and Henning (1896), who recommended that the dew should be removed from the plants an hour before sunrise. During 19th century also it was recommended that the rusted straw be burnt and treating fields with such substances as iron salts.

Rusts are controlled naturally by competition with other organisms or by hyperparasites or by predatory animals.

Darluca filum, an imperfect fungus, is a hyperparasite on rusts and feeds on the uredo and teliosori. Another fungus which is parasitic on rust is *Verticillium niveostratosum*. These parasites are, however, limited in their distribution by environmental factors.

The inoculum of rust over two million acres of wheat in the plain of Peninsular India comes each year from some 3400 acres of wheat in the Nilgiri and Palni hills. Hence Mehta (1940) recommended the complete suspension of wheat cultivation in the hills in April/June. Sowing of wheat in Chitaldrug and Bellary during July/August should be delayed, since these early crops become secondary foci of infection. According to him the outbreak of rust in the Indo-Gangetic plains can be checked effectively by prohibition of August/September sowings in Nepal and allowing sowing at the usual time in October and November. Most effective of all the methods would be the suspension of wheat and barley cultivation for 2 to 3 years in hills at an altitude of 3000 ft. or more, where the rusts over summer.

In addition the selection of planting site, preparation of the soil, time of sowing, rate and depth of sowing, care of the crop also play a considerable part in the control of rust.

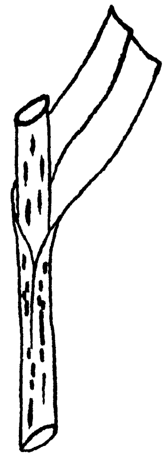
Eradication of wildly growing wheat by cultivation is of importance in rust control and this is generally recommended in U.S.A., Europe, Russia, India and Australia.

Eradication of alternate host such as species of *Berberis* for stem rust and *Thalictrum* and *Isopyrum* for leaf rust has been recommended. These particular alternate hosts help the rust to complete the life cycles. Some of the European countries, by the eradication of alternate hosts, have checked to a considerable extent the epiphytotics of the rusts.

As a last resort spraying or dusting of fungicides will considerably reduce the incidence of the rust fungi, but for the most part results have not been promising. Sulphur has been used to control the rusts with some success. The economical and profitable sulphur dusting for rust control on a commercial basis is

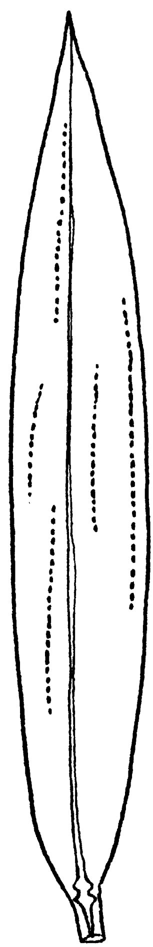
not beyond practical means but increasing success in rust control by the use of varietal resistance in wheat is unquestionably a more economical means of reducing the loss.

Breeding of rust resistant varieties of wheat may be said to originate from the work of Farrer in Australia at the close of the last century and by 1894, according to the report of the fourth "Rust in Wheat Conference," rust resistance was well established in Australia as a means of rust control. Later on, in most countries of the world, extensive and intensive selection for rust resistance was attempted and several important varieties were discovered. As a result of breeding with these parents a number of wheat varieties with good agronomical characters and rust resistance to the existing physiological races have become available. The New Pusa 710, 718, 761, 770, 797, 798, 799 and 809 are important rust resistant varieties. The Kenphad wheats 21, 25, 28 and 32 developed in Bombay, Hybrid 11, 12 and 65 of Madhya Pradesh and C 250, 253 and 285 of the Punjab are also resistant to Rust, besides being agronomically desirable. But the most difficult problem in breeding rust resistant varieties is the possibility of the evolution of new physiologic races of the rusts, which are increasing in number by mutation and hybridization and forming new genetical combinations. Therefore a variety which is reported to be resistant to all the existing races of rust may become susceptible to a newly evolved physiological race. Under such circumstances, it becomes the bounden duty of the plant breeder to evolve resistant varieties against all the existing physiologic races in the country by continuous and continued efforts.



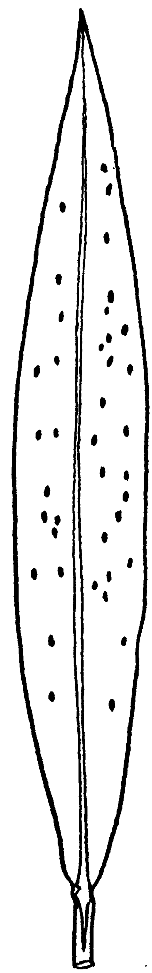
Stem Rust

Fig. 1



Stripe Rust

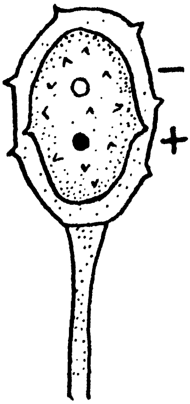
Fig. 2



Leaf Rust

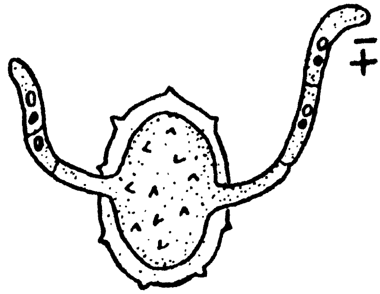
Fig. 3

Symptoms of different Rusts on Wheat.



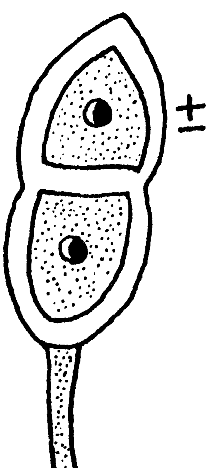
Uredospore

Fig. 4



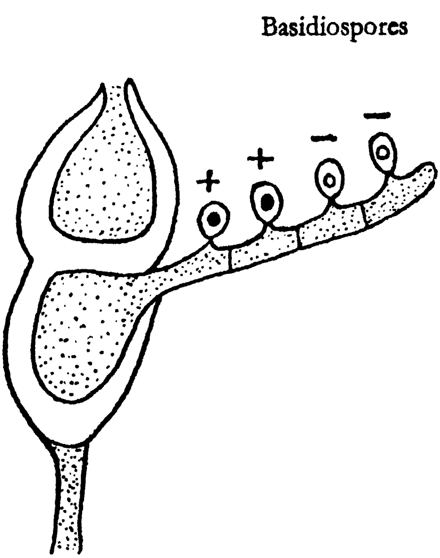
Germinating Uredospore

Fig. 5



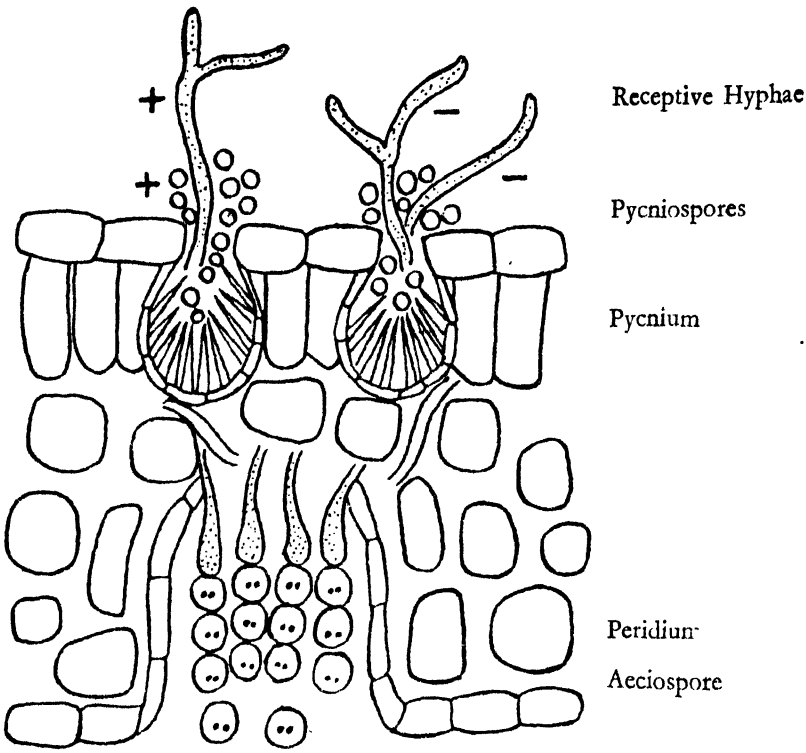
Teliospore

Fig. 6

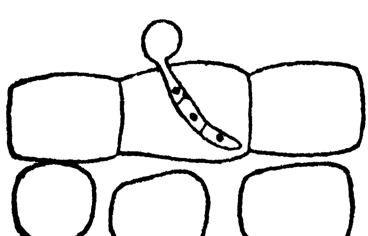


Germinating Teliospore

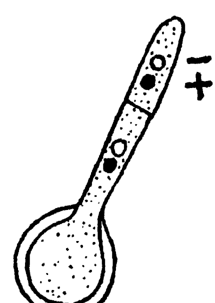
Fig. 7



Aecium and Pycnium
Fig. 9



Basidiospore infection on Berburis Spp.
Fig. 8



Germinating Aeciospore
Fig. 10

PLANT PROTECTION THROUGH QUARANTINE

R. P. MISHRA

Importance of Plant diseases

Directly or indirectly man is dependent upon plants for the supply of food. Plants alone can synthesize complex organic compounds required for the nutrition and growth of human beings. Besides food, they provide other essential commodities of daily use such as fuel, timber, drugs, spices, beverages, fibres, etc. The health of the plants is, therefore, of vital importance to human progress. Unfortunately they are subject to the attack of a large variety of plant pathogens and insect pests which lay a heavy toll on them. In general, the wild plants growing in their natural habitat are more resistant against the pests and pathogens. The cultivated plants, however, are susceptible to infection and sustain heavy losses in yield, thereby affecting the economy of crop production. The human population is increasing at an alarmingly fast rate and we are already far short of our requirement of food. So, we ought not only to produce more food but also save whatever is produced from the ravages of pests. The exact extent of the loss sustained by us is difficult of computation but there is no doubt that the loss is considerable. A sound knowledge therefore, of the cause of the source of the trouble, the life-history of the parasite, the environmental conditions which favour the outbreak of epiphytotics and a thorough understanding of the principles involved in the problem of plant protection are necessary if our productivity is not to suffer beyond the present level. The primary aim in plant protection is to prevent the outbreak of the disease rather than to destroy the pathogen after it has developed to the point of inflicting damage. The guiding priniple being that; "Prevention is better than cure".

Epiphytotics and Disease Control

The sudden and wide out-break of epiphytotic in a locality is dependent upon the following factors :—

(i) Presence of *inoculum* in sufficient quantity.

(ii) Presence of susceptible hosts in abundance.

(iii) Presence of suitable environmental conditions for disease development.

If any one of the factors is lacking, the disease may either appear in a mild form or may even be absent. Plant protection measures directed against the disease producing agents may be grouped under the following major heads :

(a) Exclusion of the parasite from coming in to contact with the susceptible host,

(b) Earadication of the alternate and colateral hosts, infected twigs, branches, leaves and other parts to reduce the inoculum.

(c) Protection through the application of fungicides in dust and spray forms.

(d) Chemo-therapeutic measures to kill the parasite already established.

(e) Immunization of plants against the diseases by hybridization method.

Broadly speaking, plant quarantine measures are included under the first head.

Plant Quarantine and its Significance

Weber writes that ; "A Quarantine is a restriction, imposed by duly constituted authorities, whereby the protection, movement or existence of plants, plant products, animals, animal products, or any other article or material, or the normal activity of persons, is brought under regulation, in order that the introduction or the spread of a pest may be prevented or limited or in order that a pest already introduced may be controlled or eradicated, thereby reducing or avoiding losses that would otherwise occur through damage done by the pest or through a continuing cost of control measures."

Plant Quarantine in a strict sense means the legal restrictions enforced on the movement of plants and plant products for the

purpose of preventing the establishement of pests and diseases in new areas. Freequently the introduced pests become successfully established in the new environment and cause partial or complete destruction of plants. Instances of the introduction of pests and pathogens in to new areas, which resulted in severe and often tragic losses of plant products, are not uncommon. A number of important fungal pathogens of cultivated plants such as Late blight of potatoes *(Phytophthora infestans)*, powdery mildew of grapes *(Uncinula nectar)*, downy mildew of grapes *(Plasmopora viticola)* were all introduced into Europe from America or eastern Asia and caused heavy damage there. Other important diseases like Chestnut blight *(Endothia parasitica)*, Citrus canker *(Xanthomonas citri)*, and White pine blister rust *(Cronartium ribicola)* were introduced into North America from other countries. The catastrophy caused by the grape downy mildew was so much that, at one time, it threatened the very existance of wine industry in the continent of Europe. Among the destructive insect pests mention may be made of the European corn borer, Japanese beetle, San-Jose scale and the Oriental peach moth which have proved extremely harmful.

Development of Plant Quarantine

It seems likely that the plant quarantine regulations were enforced by the Governments as a response to the demands of the agriculturists to check and control the introduction of certain destructive pests and diseases unknown in their localities. France was probably the first to enact quarantine laws in 1660 to check and prevent the spread of Barberry which plays a significant role in the out-breaks of stemrust of wheat (Puccinia graminis tritici) in an epidemic form. Germany issued a decree in 1875 forbidding the importation of potatoes from U.S.A. with a view to control the multiplication and spread of the Colorado Potato beetle. In 1877, Australia set up quarantine laws prohibiting the importation of grapes from America because of the depredations of Phylloxera (Grape gall louse). Among the first few nations to establish plant quarantine were France, Germany, Australia and

Austria. Most other independent nations established plant quarantine between 1870-1915. The United States Congress passed the Federal Plant Quarantine Act in 1912 against the importation of destructive pests and pathogens from abroad. In 1914 the Governer General of India in Council gave his assent to "an act to prevent the introduction into and the transport from one state to another in India of any insect, fungus or other pest which is or may be destructive to crops". This act was known as "The Destructive Insect and Pests Act of 1914".

More than 150 countries have successfully introduced plant quarantines and maintain highly qualified research workers for their enforcement. An international agreement on Plant Protec-ion was reached in Rome as early as in 1914 under the auspices of the International Institute of Agriculture. On April 16th, 1919, the International Convention of Plant Protection was accepted as a major step in quarantine. The conventions, however, became effective only after 1932 following the International Plant Protection Conference of 1929. Under this convention, several member cuontries agreed to issue and accept Phytosanitary certificates as a safeguard against the easy passages of destructive parasites across national boundaries . The second International Plant Protection Convention was held in 1951 under the auspices of the F.A.O. and was signed by only 39 countries.

Quarantine Regulations

These vary from country to country depending upon the nature of diseases against which they are directed. Broadly they may be grouped under.

(a) Prohibitory Quarantine or Embargoes.

(b) Regulatory Quarantine or Restrictions.

In the former category are included laws which prohibit the importation of specified plants and plant material into a new locality. Sometimes the importation of certain plant material from specified areas is also prohibited. Embargoes against specified crops and plant material are enforced when no other satisfactory method is found of combating the destructive pathogens.

The regulatory plant quarantine measures on the other hand permit the importation of specified plants and plant products into the protected areas under certain specified conditions. Under these rules, importation is often permited after inspection to make sure that the consignment is disease free. Sometimes the consignment is routinely fumigated if suspected of infection and then allowed entry at the port. Plants and plant material not covered by the Regulations may be admitted at the port of entry after the presentation of an official phytosanitary certificate from the country of origin. The quarantine officials at the ports are trained to recognise the symptoms of the diseases and take decisions concerning the acceptance or refusal of certain consignments. These officers work hand in hand with the Customs officials.

Plant Quarantine in India

The enactment of "The Destructive Insect and Pests Act of 1914" in India formed the basis of the quarantine regulations subsequently enforced. This act was primaryly designed to prevent the transport of any destructive insect, fungus or other pests from one state to another within India. The act has since been ammended from to cover different aspects of the problem. The Central Government may prohibit or regulate the import into India of any article or class of articles likely to cause infection to any crop. Any person who knowingly exports any article or insect from a state or transports any article or insect from one state to another in India shall be punishable with fine which may extend to Rs. 250/-. No suit, prosecution or legal proceedings shall lie against any person for anything done in good faith or intended to be done under this act.

No plants can be imported into India by means of letter or sample post. Plants whose importation is totally prohibited are not to be imported into India even by air. But other plants, on which there is no such restrictions, may be imported into India through the airports at Bombay, Calcutta, Madras or New-Delhi provided they are

(1) accompanied by an official phytosanitary certificate from the country of origin,

(2) inspected and, if necessary, fumigated or otherwise treated.

The import of plants such as Citrus sps., Cocoa and other species of Theobroma, Coffee, Garlic, Onion and other Allium sps., Potato, Rubber and Sugarcane and plant seeds like those of Berseem, Cotton, Flax, Mexican jumping beans and unginned cotton, is totally prohibited. The import of seeds of Cocoa from Africa, Ceylon and West-Indies, Coffee seeds and beans from Burma, Rubber seeds from America and West-Indies is restrictively prohibited. No insect shall be imported into India unless it is accompanied by a special permit stating that it is not likely to be destructive to crops. Similarly, no fungus can be imported in to India unless it is accompanied by a similar permit. The Central Government has prohibited the transport from the state of Madras to any other state of articles which are likely to carry the destructive insect known as *Icerya purchasi* and therby cause infection to crops. The transport of articles which are likely to carry the destructive insect known as San-Jose scale from Punjab, Uttar Pradesh, Madras, West Bengal Assam and Orissa to other States is regulated. The export of Banana suckers from Travancore and Cochin is totally prohibited because they harbour a destructive virus disease known as the "Bunchy top" of Banana.

The problems of plant quarantine are dealt by the Directorate of Plant Protection, Quarantine and Storage in Delhi. It has three divisions viz., The Locust division, the Plant Protection division and the Plant Quarantine division headed by the Assistant Director of Plant Quarantine. There are plant quarantine sub-stations situated at important sea-ports like Calcutta, Madras, Vizagapatam and Cochin. In each of these sub-stations, there is an Entomologist, a Plant Pathologist, Quarantine Inspectors and the Junior Technical Assistants, whose main function is to examine the shipments and treat them suitably.

The Controversy over Plant Quarantine

Plant quarantine principles as measures of plant protection are still debated as this method does not lend itself easily to experimental study. Serious differences of opinion exist between the upholders of plant quarantine and those opposed to it. The main criticisms against the principles of plant quarantine are :

(1) That it is economically unsound. The cost of maint ainence of the organization is much greater than the loss sustained by the attack of diseases and of pests.

(2) There is no single accepted system of domestic or international plant quarantine, and, therefore, it is not biologically sound.

(3) Prohibitory plant quarantines may be imposed by certain countries to their own advantages in overseas trade.

(4) It is not possible to exclude altogether the introduction of pests and diseases in an age of speedy transport, and when large quantities of plant produces are being handled.

Those in favour of the adoption of quarantine policy give the following reasons in their support of themselves :

(1) The movement of plant products likely to harbour destructive pests and diseases across the National Frontiers can be effectively checked only by the strict enforcement of quarantine regulations.

(2) The introduction of certain pests and diseases to a new locality may result in complete destruction of the crop. The amount of loss that would be incurred, if the pest is introduced, may by far outweigh the cost of administration.

(3) The quarantine measures are not used to gain a point of vantage in trade, at least between countries having good relations between them.

(4) It is possible to have an uniform system of conventions and agreements to make the regulations effective.

As already indicated, the plant quarantine measures do not easily lend themselves to an experimental study. Moreover we cannot afford to do so because of the heavy economic loss that might occur by such means. The history of epiphytotics in different parts of the world teaches us that the introduction of pests and diseases may completely wipe out a flourishing industry of a nation and seriously upset its economy. Instances of such a kind are not unknown. New varieties and races of the pathogenes are arising in nature by hybridization and mutation which may be more severe in their effect. Therefore, the employment of quarantine measures as an effective check against the introduction of certain pests and diseases is justified.

THE SOIL AND ITS FERTILITY

UMA SHANKER SINGH

Introduction

The history of man is the history of his relation with the earth and its environs . This relationship has been emphasised by the historians, archaeologists and the scientists. Scientists have brought to light many truths which were shrouded in mystery. and have obtained a clear understanding of the place of man in Nature and the meaning of the various patterns of life that have evolved in relation to the habitat and the environment.

The relationship between man and soil, upon which he subsists has been studied for a long time and has engaged the attention of biologist, Chemists and agriculturists especially since the middle of the last century. From the very dawn of his existence, man has depended directly or indirectly on the soil for his maintenance. Soils have supported communities for a very long time and in some cases indefinitely (Bennett, 1955).[1]

An early step in civilization was tilling of the soil and its exploitation. Thus the primitive civilization of Mesopotamia, Egypt, China and the Indus valley flourished around the fertile alluvium of the river systems of the Euphrates-Tigris, the Nile, the Hwang-ho and the Indus (Hyams, 1952).[2]

In his desire to get the most from the land, the farmer has failed to bestow due attention on his land which has been over exploited i.e. over grazed, over stocked, over cropped and impoverished . As a consequence, one civilization after another has vanished and the desert lands like the Sahara, the middle east, Sindh, only remain to tell the story of man rape of the soil.

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[1] Bennett, H. H., Elements of soil conservation, McGraw-Hill Book Co., Inc. New York, 1955, Chap. 1.

[2] Hyams, E., Soils and Civilization, Thames and Hudson, 1952, Chapts. 1 & 4.

If the modern world is to continue in all its grandeur and dignity, man will have to negotiate with the soil and establish better relation-ship than one of mere exploitation. (Lowdermilk an moor)[1'2]

Definition of the soil

The word soil is commonly defined as granular mixture of mineral and organic materials covering the earth's surface which is capable of sustaining plant life. The minerals and clay of the soil consists of particles derived from the parent rocks under the action of natural agencies like temperature, wind, rainfall, erosion, glaciation and vegitation (Thompson, 1957).[3] All soils are therefore derived from the rocks and the minerals they contain. The weathering of the rocks and the formation of the soil started in the dimness of the past and is in progress even today. As soon as, a thin coverage of soil was formed, lower forms of plant life appearaned on it. When they died, their remains became incorporated in it and served to enrich it. This process continued over a long period of time resulting in the accumulation of enough of organic material in the top soil to bear the higher plants. In a broad sense, the soil consists not only of mineral but also of organic material, including a large number of living organisms such as bacteria, protozoa, fungi, earthworms and insects.

Economic importancc

The land constitutes only 29% of the surface of the globe but sustains all life on the earth. Almost all the essential requirements of man's survival on this earth are derived from this source (Bannett, 1955)[4]. Besides a place to live and adequate shelter,

[1] Lowdermilk, W. C., Conquest of the land through 7000 years, U.S.D.A. Soil Cons. Serv. S.C.S.M.P. 32.

[2] Moor, H. I. Crops and Cropping, 4th ed., Allen and Unwin, 1949, Chap. Cropping problems of today.

[3] Thompson, Louis M. Soil and Soil Fertility, Jnd ed., McGraw-Hill, 1957, Chap. 1.

[4] Bennentt, H. H., Elements of Soil eonservation, McGraw-Hill Book Co. Inc. New York, 1955, Chap. 1.

man must have food and fibre for covering the body. These necessities of life are obtained from field and garden crops like rice, wheat, corn, potatoes, cotton, sugarcane, beet, flax, vegetables and fruits. Marine products like fish, Prawns, Crabs, Seaweeds, are additional sources of food but they constitute a small fraction of the total of human needs.

Field crops are the chief sources of human needs and are produced by only 2.5 billion acres or 7.5 percent of the cultivable land. The following table will provide a clear view of the situation (Graber, 1956).[1]

Particular		Acreage	Percent
1. Crop land	...	2.5 bill. acres	7.5
2. Grazing land	...	2.5 bill. acres	7.5
3. Forests, mountains cities, roads, deserts and waste lands etc.	...	27.6 bill. acres	85.0
		32.60 bill. acres	100.0

Pasture and meadow lands yield valuable animal products like meat, milk, wool and leather. Forest areas occupy about one fifth of the land area in the world and contribute wood, fuel, barks, resins, pulp for paper, medicinal drugs, and oils. Since the greater part of the globe is watery and the climatic limitations do not permit cultivation of economic crops to be carried on a vast area of available land in certain part of the year (Hyams, 1952),[2] the necessity of better utilization of arable land in the world is very great.

Variation in the fertility of soils

All plants require light, heat, water, air and nutrient elements in suitable quantity for their growth and development. The

[1] Graber, L. F., Laboratory Manual for students of Agronomy, ed. 9th, WM. D. Brown, Dubuque Iowa, U.S.A., Chap. World Agriculture'.

[2] Hyams, E., Soils and Civilization, Thames and Hudson, 1952, Chapts 1 & 4.

basic need in general is the same, but plants vary a great deal in their specific quantitative requirements. With the exception of light and to a certain extent heat and air, other factors, i.e., water and nutrient elements, are mainly obtained from the soil. The soil must make all these elements available to the plants for their satisfactory growth (Miller, 1955).[1]

Parent rock and climate

Basic constitution of the parent rocks, together with the climate, vegetation, topography and age greatly influence the composition of the resulting soils. If two soils have been derived from similar rocks under identical weathering condition, they will be very akin in composition and will possess identical properties. But the factors vary in several dimensions on account of which each kind of soil is of a particular type showing certain physical and chemical characteristics which vary from area to area(Thompson, 1957).[2]

"The rock fragments—mineral particles—of soils vary in size due to the variations in the soil forming agencies. They range in size from those easily discernible with the naked eye to those below the range of the electron microscope. In some cases, the mineral particles predominate and a sandy or gravelly soil results. In other cases, the mineral colloidal gels occur in such amount as to give the soil clayey characteristics. All gradations between these extremes are found in nature. (Lyon and Buckman, 1938)".[3]

"In the time covered by one generation of man, the soil processes, while very active, do not alter appreciably the size of these mineral particles. Thus a sand remains a sand and a clay, a clay; and the physical and chemical properties remain the same as in original case". Their properties may be modified

[1] Miller C. E. Soil Fertility, John Wiley, N. Y., 1955, Chapts. 2 and 7.

[2] Thomson, Louis M. Soil and Soil Fertility, Jnd. ed., McGraw-Hill, 1957, Chap. 1.

[3] Lyone, T. L. and Buckman, H. O., The Nature and Properties of Soils, 3rd ed. Macmillan, New York, 1938, Chap. 1.

to a certain extent by management and drainage and aeration. Thus, the variations, as stated above, ultimately result in differences in the fertility of soils (Lyon and Buckman, 1938).[1]

It has been explained in the foregoing discussion, that plants derive the nutrient elements and water from the soil for growth and development and finally transform them into the seed and the fruit which constitute, the principal sources of human food. High yields of crops remove more of the nutrients from soil than do low crop yields (Martin and Leonard 1949).[2] Crop variety, soil type, climatic conditions, topography, and cultural practices are some of the factors which regulate the extent of the depletion of soil in the farms and fields and a vigilance has to be kept on the extent of the exhaustion suffered by the soil by means of periodical soil analysis. (Martin and Leonard, 1949).[2]

If soil exhaustion is not checked by scientific management, the consequences may be far reaching and even disastrous. How the soils are robbed of the ingredients by a single normal crop is indicated in the following table (Sethi and Sharma).[3]

Common name		Scientific name	Loss per acre (lbs.)		
			N	P	K
Sugarcane	...	*Saccharum officinarum*	100	...	...
Tobacco	...	*Nicotiana tabacum*	15	15	75
Potato	...	*Solanum tuberosum*	120	60	40
Giant grass	...	*Cynodon plectostaclryum*	60	100	...
Maize	...	*Zea mays*	80	...	...

It is evident that crops are specific in their requirements for the major nutrients. Growing of the same crop on land

[1] Lyone, T. L. and Buckman, H. O., The Nature and Properties of Soils, 3rd ed. Macmillan, New York, 1938, Chap. 1.

[2] Martin, J. H. and Leonard, W. H., Principles of Field Crop Production, Macmillan, New York, 1949, Chapts. 5 and 6.

[3] Sethi, B. L. and Sharma, J. N., Field Crops, Singh Priting Press Kanpur, 1952. Chap. 1.

continuously for a number of year tends to exhaust the soil of a particular constituent or nutrients and has a bad effect on tilth. The effect is more serious in the case of specialised farming.

Row crops

The principal reason for the cultivation of row crops is to elimiate competition due to volunteer plants, and thus to create a more favourable environment for the growth and development of the crop plants (Martin and Leonard, 1949).[1] This practice brings an immediate bonus in the form of a higher yield. When the system is followed for a long time, it brings about a loss of organic matter on a large scale (Bennett, 1955).[2] Organic matter is useful to the soil in several ways. Besides supplying nutrients which are held in it in one form or another, it holds together the soil particles and keeps the soil moist and sanitary. In its absence, the soil becomes loose and is easily eroded. As with clean cultivation of row crops, the loss of soil is considerable owing to the wide spacing and the bare surface left in between the rows of crops i.e., corn, cotton, tobacco and soybean (Martin and Leonard, 1949).[1] The erosion problem is acute all over the world and is responsible for the bodily removal of several thousands billion tons of most useful soil going out of use for generations to come. To cite an example, in the U.S.A. alone about 3 billion tons of top soil is removed out of the fields and pastures every year. In this deleterious process as huge a quantity as 90 million tons of five principal elements of plant foods—phosphorus, potassium, nitrogen, calcium and magnesium, in addition to plant nutrients of lesser importance, humus, beneficial micro-organisms and other inhabitants of soil are wasted along with the soil mass (Bannett, 1955).[2] It is beyond our ken to compute the loss occurring every year on a world wide scale due the aforesaid cause.

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[1] Martin, J. H. and Leonard, W. H., Principales of Field Crop Production, Macmillian, New York, 1949, Chapts. 5 and 6.

[2] Bennent H. H., Elements of Soil conservation, McGraw-Hill Book Co. Inc. New York, 1955, Chap. 1.

Effects of chemical fertilisers

About the beginning of the present century, chemical fertilisers started replacing organic manures in order to promote greater plant growth or for better crop quality. Now they are being extensively used throughout the world with doubtful results. In commercial farming, they are applied in quantities sufficient to induce maximum yield but they do not serve to maintain the productive level of the soil. However, the use of fertilisers requires constant vigilance and skill on the part of the cultivatiors. Excessive use of fertilisers without regard to the physical condition of the soil has produced some deleterious results creating new problems for the farmers. The tendency of some nitrogenous fertilisers to increase soil acidity ought to be borne in mind. (Miller, 1955).[1] This can be conteracted by the periodic application of lime to promote a suitable pH level which will neutralise it. On the other hand, several fertilisers contain sufficient basic material also. Long continued use of large quantities of sodium nitrate may tend to disintegrate soil structure (Miller, 1955).[1]

Maintenance of optimum condition

A fertile soil contains lime, phosphorus, potash, nitrogen and traces of vital elements like boron and manganese (Miller, 1955).[1] It should also be well drained and be of the right texture. A wise combination of plant food in the form of both organic and inorganic material is necessary to secure maximum yield of crop.

The maintenance of fertility, therefore, is not simply a question of adding dung. It is a specialised art. Besides involving a mechanical process necessary for tilth formation, it also means making good the loss of both organic and inorganic matter resulting from cultivation of crop plants . It also includes the protection of the surface soil from erosion by winds and floods. In short, it demands a good sense of husbandry and farming on a mixed pattern. In order to maintain the soil in a

[1] Miller C. E. Soil Fertility, John Wiley, N. Y., 1955, Chapts. 2 and 7.

condition to sustain a permanent agriculture, the faimer should practice :

1. Suitable crop rotations of leguminous and non-leguminous crops,
2. Green manuring of crops for maintaining organic matter in the soils,
3. Raising of soiling crops, if and when possible,
4. Growing of cover and catch crops along with the row crops,
5. Mixed farming strike a good balance between in-take and output.
6. Soil conservation methods,
7. Use of chemical fertilisers, and
8. Control of diseases, insect pests and weeds.

HISTORICAL ASPECTS OF TEA CULTURE IN INDIA

S. S. SHARMA,

Legendary account of tea

'Tea' or '*Cha*' as it is commonly known is a dull, black and dried up leafy stuff but its story is colourful. Where tea was first discovered as a drink, where and how it grows, and its process of manufacture make an entertaining reading. The story of tea is also woven with tales of adventure and romance.

The origin of tea and its use as a beverage is wrapped in mythology. Tea had its origin in China, many a centuries ago.

The legend of tea as available from Chinese sources dates back approximately to the third millennium B.C. (2737 B.C.)[1] At that time, according to a Chinese legend, leaves from a wild tea bush fell by chance into the boiling water intended for drinking by Emperor Shan Nung. "What a delightful flavour", said the emperor on drinking the world's first cup of tea. Another story relates how Dharuma, a Buddhist monk who came to China in the fifth century, A.D., was responsible for introducing tea.

Tea in China

The earliest reliable reference of '*Cha*' is contained in a Chinese dictionary dated about 350 A.D. "The present appellation *Cha* was not given to tea until the 7th Century of our own era. Prior to that time the chinese used the names of several other shrubs for 'Cha'. Of them *tu* was most frequently used until the time of the T'ang dynasty (A.D. 620-907). When *tu* became restricted in use for meaning the 'Sow thistle', tea became 'Cha'. So great is the similarity between the written character of *Cha* and *tu* that it suggests a close etymological relationship

[1] Ukers, W. H., M.A., "All About Tea" Vol. I. N. Y. (1935) Page 1.

and conveys the impression that *Cha* is derived from *tu*".[1] The words *te*, *tu*, *Chia*, and *Cha* denote tea in various Chinese dialects, and have been assimilated in one form or other into other languages.

By the 5th century tea had become an article of trade. Late in the sixth century, the Chinese generally began to regard tea as something more than a medicinal drink. "Tea was first used as a beverage in the reign of Wein Ti, of the Sui dynesty (A.D. 589-670), and was acknowledged to be good, though not much esteemed".[2]

The first authentic account of tea was in a tea book "Ch'ā ching" written by Lu yu in A.D. 780 and a tea tax was also imposed in the same year for the first time.[3] Plucking of leaf, as Lu Yu says, must only be done during certain moons, and not when it is raining or the sky is cloudy. "There are thousand teas," adds Lu Yu.

In any case, it is generally believed that the present method of preparation, in which each leaf is separate was known at the time of Lu Yu. In early times, tea was quite popular and a chinese poet wrote about the drink in the following strain.

"The first cup moistens my lips and throat, the second cup breaks my loneliness, the third cup searches my barren entrails, but to find therein some five thousand volumes of odd ideographs. The fourth cup raises a slight perspiration, all the worng of life passes away through my pores. At the fifth cup I am purified, the sixth cup calls me to the realms of the immortals. The seventh cup ah, but I could take no more. I only feel the breath of cool wind that rises in my sleeves. Where is Horaisan ?[4] Let me ride on this sweet breeze and waft away thither.[5]

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1 Ukers, W. H., M. A."All About Tea" Vol. I. New York, (1935), Page 1.

2 Ibid. Page 3.

3 Ibid. Page 5.

4 The Chinese Elysium.

5 Harler, C. R., "The Culture and Marketing of Tea" (2nd edi.) Chapter VII Oxf. Uni. Press, London (1956).

Tea in Japan

Japan, it is belived, was also growing her own tea instead of importing it from China. The Buddhist saint, Dengyo Daishi, crossed the sea to Japan in 805 A.D. and planted seeds in the Temple Garden. In 815 A.D. the Japanese Emperor Saga, was entertained with tea at a monastery. He liked it so much that he decreed, let the tea be cultivated in the provinces near my capital.[1]

To-day tea is a popular beverage throughout the world. In Japan, however, the simple act of drinking tea has become an elaborate ceremony. With the Japanese every step in the preparation and drinking of tea is meaningful. The pouring of the hot water, the position of the cups, the way the cup is raised to the drinkers lips, all this must be carried out in a certain way. In fact, the proper method of serving tea has been a part of Japanese Schooling for over 400 years.

Tea in the West

The first European book mentioning tea was published in Venice in 1559. The first account of tea in English appeared in 1598 in the Voyages of Hugo Van Linschotau, a Dutchman who drank tea in the distant, mysterious Orient.[2] The dutch traders were the first people in Europe to drink tea and their sailing ships carried most of the wonder leaf for the west in the 16th century. But in 1669 the famous East India Company, began bringing tea to England from Java. In 1618 another method of transportation was tried to bring tea by Camel Caravans from China across the deserts and mountains to Eastern Europe. By the 18th century tea became England's national beverage. Rich and poor, alike, enjoyed it and Dr. Samuel Johnson, the great journalist and critic described himself as "a hardened shameless tea drinker".

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[1] "The Romance of Tea" Tea Trade and Industry Vol. V., No. 7, (July 1956) Cal. 1, page, 365.

[2] Ibid.

Tea played a dramatic part in the establishment of the United States of America. In 1767 the British Government imposed tax on tea used by the American Colonists. The settlers decided to stop buying tea and refused to allow teaships to be unload. On a December night in 1773, men dressed as Indians boarded British Ships in Boston harbour and threw away 300 chests of tea into the sea. The 'Boston Tea Party' sparked the American war of Independence.

Begining of Tea Culture in India

The first mention of tea in India was made in 1780 when a few tea shrubs imported from Canton (Sent by Mr. Gordon) were planted in the Calcutta Botanical Gardens.[1] In 1788 Sir Joseph Bank studied the problem and suggested Bihar and Cooch-Behar as suitable areas for tea culture. Assam was not included in the British Empire at that time. Although the East India Company knew the fact that tea could be grown in India, no worthwhile advance was made till 1833 when China lost its tea trade monopoly. In the following year, a Committee explored the matter and an experimental station was started on the slopes of the Himalayas at Kumaon.

Many Europeans, who had experience in Upper Assam during the early part of the nineteenth Century, knew that tea was growing in the abode of the hill tribes (Singphos) on the north-east of the Brahmaputra Valley. Soon after the above mentioned experiment had started, information came through that the tea plant had been discovered growing luxuriently in the jungles of the Upper Assam, at that time a country cut off from the mainland of civilization. Tea was also found in a belt running from the Dihing river in Upper Assam through the North Cachar Hills and in Burma. But no tea was found west of the Dihing. The credit of this discovery is usually given to Robert Bruce (an adventurer and trader), who saw the plant growing on some hills near Rangpore (Sibsagar Dist.) the then Capital of Assam,

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[1] Carpenter, P. H., "Tea in N. E. India" (Quarterly Journal) I. T. A. Scientific Deptt. Part II, 1929.

which he visited in 1823. But there is another story which attributes the discovery to an Assamese named Shri Moniram Dewan.

Bruce followed up his discovery and, later, found tea in many other tracts, the largest being at Nam Sang in the Naga Hills and Manipur Hills. Other big tracts were at Tipam and GabruParbat, Tingri, Nadua, Negrigram and Borhat. Again indigenous tea was found in the Chandkhani Hills in Surma Valley (in Sylhet and Cachar) in 1855. According to a source, the discovery of tea plant in Sylhet was made by Mohammad Warish.

The first experimental plantation of tea in India was started near Sadiya at Kundilmukh in Assam, where it was impossible for tea to thrive. The selection of the land for plantation was wrong. A patch of land (10 acres) was selected on *Chur* at the confluence of the kundil river and the Brahmaputra. This first effort resulted in total failure, because the Churs are shifting sand banks with alluvial deposits of a few inches deep. As soon as the roots of the seedlings reached the sand the plants withered and died. "In a short time" says David Crole, "the kindly Brahmputra flowed over the site of this, the first tea garden in Assam, and burried in its waters a lamentable failure"[1]

The next attempt was made at Jaipur (Joypore) and Chabwa, the latter name means "tea planted" with China seed in the Dibrugarh area. This site was chosen because the wild Assam bush flourished close by. The result was successful. This time the Chinese labourers were imported to work in the garden. Regarding this attempt J. Berry White says, "It is a matter of regret that this experiment did not share the fate of its Sadiya predecessor."[2]

[1] David Crole, "Tea: Its cultivation and Manufacturing". London, 1897.

[2] J. Berry White, "The Indian Tea Industry" Its progress during fifty years and prospects considered from commercial point of view". Journal Society of Arts, Vol. XXXV. London, 1887.

About the time Chabwa was planted, other small gardens around Tinsukia were also planted. A few of the original plants still exist at Jaipur and can be seen to have been planted in irregular lines.

The first tea in Cachar (Surma Valley) planted in mauza Barsanjan in 1856 on the hilltops which stretched from Barail Range to the Barāk river. In Sylhet (Pakistan) the first garden was opened at Malnicherra in 1847. The introduction of tea in Chittagong dates from the year 1840 when some China plants from the Botanical Gardens, Calcutta, and some seeds from Assam were planted in the Pioneer Garden.

About the same time Darjeeling and South India embarked upon the venture of tea growing. After the establishement of tea in Darjeeling, attention was paid to the Tarai where a plantation was made in 1862 in Champta. Good variety of indigeneous tea was planted in the Western Dooars and the Tarai instead of the China bush.

In 1838, the first twelve chests of tea from Assam were exported to England. They got damaged to some extent in transit, but on samples being submitted to brokers, the report was highly favourable. On tenth of January, 1839, it was auctioned for an average of more than 20 shillings per pound. Steadily plantations grew in Assam. Ten Years later in 1855, capital flowed into the business from all quarters. Land was recklessly acquired to be sold to speculaters in England for extravagant sums; and tea growing, for the time being, fell into the hands of stock jobbers and bubble companies.

Question of the Origin of Tea

Tea had its origin in China. There is ample proof of this so far as the creation of the industry and the adoptation of tea as a beverage are concerned. From the botanical point of view, however, it was contended for many years whether the tea plant originated in China or in India. Plants of Chinese variety had been transported to India for a long time even after the finding

of the indeginous *Assamica* in 1823. There are old stories of how tea came to China from India. Indeed even today many believe that the Chinese must have obtained the plant for cultivation from a source outside China. According to Samuel Baildon, who wrote extensively on the tea industry of India in the seventies of last century, the plant was introduced in China and Japan from India centuries ago. He argued, "there was but one species of tea—The India—and then the inferior growth and the smaller leaves of China tea were the result of the transportation of the plant into an uncongenial climate and into unfavourable conditions of soil and treatment".[1] At one place David Crole says that "tea is not native to China but to Hindustan,"[2] and proves it by legendary stories of 2,000 B.C. Another writer, Mr. Day, says, that "the plant was not indigeneous to China, but was introduced into it from India, its natural habitat.[3]

Original Habitat of Tea

Although there is a great controversy regarding the native home of tea, as a geographer we must not forget that Nature's activities are not confined within the defined political boundaries of a particular country. These political boundaries do not always correspond with the natural divisions. Therefore, no country singly can claim tea as all its own.

The original habitat of tea was most probably in the monsoon districts of south-east Asia (see Figure). Tea plants are still to be found in the forests of the Shan States, Northern Thailand, Eastern Burma, Yunnan, Upper Viet-nam and north-east India (Assam Hills). Thus, the tea plant appears to be indigeneous to this part of South-east Asia, including China and India. The political boundaries of various countries, where wild tea has been found, are purely arbitrary lines. Before the political limitation of frontiers, there was one primeval tea garden where the con-

[1] Samuel Baildon, "Tea in Assam" Calcutta, (1877).

[2] David Crole, "Tea: its Cultivation and Manufacturing.," London. (1897).

[3] Day, "Tea: Its History and Mystery" Calcutta.

ditions of soil, climate and rainfall were happily combined to promote the natural bed for tea.

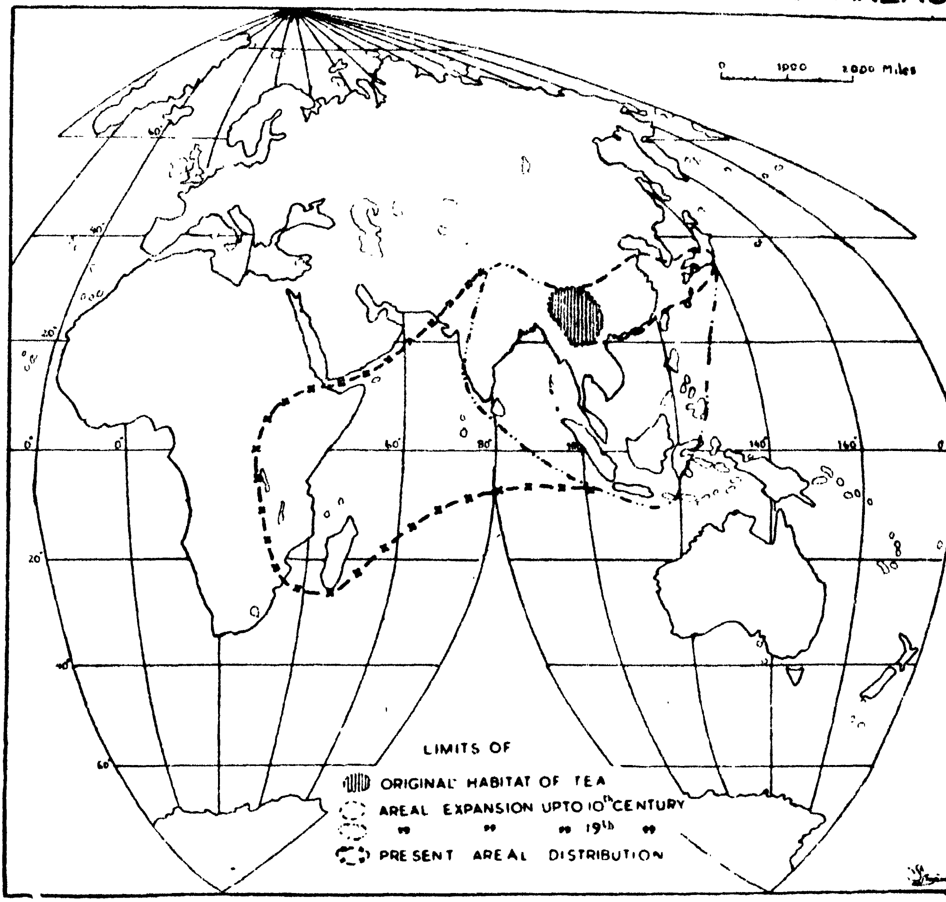
Discovery of Tea in Assam—a controversial problem

A controversy in regard to the discovery of tea in Assam exists. Dr. William first presented Lieutenant Charlton's claim, which was later modified and transferred to Mr. C. A. Bruce and his brother Major Robert Bruce of Jorhat. As Major Robert Bruce was dead, his brother C. A. Bruce was awarded a medal from the English Society of Arts, presented through the Agricultural and Horticultural Society of Bengal. Both Charlton and Major Jenkins protested at this. Their claim was finally established and on 3rd January, 1842, the President of the Agricultural and Horticultural Society of Bengal presented a gold medal to captain Charlton for being the first to establish that the tea plant was indigenous to Assam and another to Major Jenkins for bringing the controversy to a successful end. Meanwhile, Samuel Baildons says that Shri Moni Ram Dewan is said to have been the discoverer. Perhaps, it was Moni Ram Dewan who might have informed Major Robert Bruce about the existence of tea, or he might have first led Major Robert Bruce to the spot where the tree was growing ?[1]

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[1] Ukers, W. H., M.A., "All About Tea", Vol. I. New York (1935), page 145.

SUCCESSIVE EXPANSION OF TEA PRODUCING AREAS



METALLURGY IN ANCIENT INDIA

G. S. UPADHYAYA

Learned books like Dr. P. C. Roy's 'History of Hindu Chemistry written on the basis of large available materials are few, and far between. The investigations of Indians in the field of metallurgy are little known even to-day. But it is a fact that their knowledge of this art was exact and wide and that too in an age of antiquity. An attempt has been made here to present a few salient points of India's achievement in the field of metals and metallury.

Vedic Period

Mention is made in the Rigveda inself, of three metals हिरण्य, रजत and अयस् of which the first one may be definitely identified as gold, the second as silver and the third as iron.

Of हिरण्य there are about a hundred references in the "Rigveda". From this we can infer that the ancients had a good knowledge of this metal. There was passionate quest after gold even in that ancient age. "Sun and its light as light as gold at gold at break of down", "Varuna as wearing golden coat of mail" "Soma juice entering into golden jars" etc. are popular illustrations which show that gold was very well-known in that age.

The process for obtaining gold was quite simple and consisted of gathering the sandy deposits from the river beds, washing them with water and obtaining the finer particles to be later molten into lumps.

रजत the second metal is mentioned only once in the Rigveda. Hence we cannot say any thing with certainty about the extent to which this metal was known in that period. May be that silver was little used in that age and was not a favourite like gold. It is quite understandable since the prospecting of silver ore is not so easy as that of gold.

As regards अयस्, the third important metal, there are as many as forty references in the Rigveda. As regards the identification of अयस् as iron many a western scholar is still in doubt, because the iron age comes at a later period in cultural history, and they wonder whether the Indians could have been familiar with iron at such an early age of world's history. A detailed study of the properties of अयस् mentioned in the Rg. Veda has, however, led competent orientalists to identify the metal as none other than iron.

Now as regards the metallurgy of iron, we can glean ample evidence in the Vedas. The metal was found in the ores which were smelted by a particular guild called ध्मातृ or कर्मार meaning blacksmiths. The smelting was done in furnaces with dried faggots of trees as fuel and bellows. The iron balls thus smelted were hammered down and welded into lumps.

Dr. Percy in his work 'Metallurgy of Iron and Steel' (1864) writes that the so-called "Iron Age" may have preceded the "Bronze Age" or may have paralleled it. Bronze requires more skill to handle it and therefore Dr. Percy's view may have some force in it.

Iron was a very important and useful metal even in those remote times. Household utensils, such as jars, pots, kettles, etc. and agricultural implements such as plough-share, sickles, spear, axes, daggers, swords and arrows were fashioned out of this metal. Even a broken limb was substituted by one made of iron and this provides a proof of the skill acquired in those days in making surgical implements*.

In यजुर्वेद, we find a large number of new metals mentioned e.g. श्याम (copper), सीस (Lead), त्रपु (Tin). The art of smelting become perfected in this period and this veda mentions the iron-smelter under the name of अयस्ताप,. From अथर्ववेद we derive additional information about the use of those metals. It is here that we encounter the word ताम्र the common sanskrit word

*The Rigveda positively mentions that '*Ashvins*' made for 'विश्पला' an iron thigh (Rg. 1/116/15).

for copper, for the first time. Silver is called by a new name "अर्जुन" and it is remarkable to note the phonetics of the Latin equivalent 'Arjentum' for Silver. The German word 'Eisen' means iron and it is believed to be liguistically related with the Sanskrit word 'अयस्'.

Historical Period

Coming to the historical period we find 'Kautilya's अर्थशास्त्र giving valuable information about the condition of metallurgical art in the fourth Cen. B.C. Kautilya says that in his time there were two officers, one of whom was the Manager of Mines and called 'आकराध्यक्ष' and the other was the Mint master named as 'लोहाध्यक्ष' The first officer possessed sufficient knowledge of the various processes involved in the dressing of minerals dug out of the mines. Kautilya lays emphasis on the importance of two metals viz., gold and silver. For obtaining pure gold, he mentions the use of lead,—a scientific process (cupellation) applied even in modern time. This process was named खर्पर विधि

About 200 years after Kautilya, lived Patanjali who is regarded as the father of metallurgy; because in his famous work लोहशास्त्र he gave the first descreption of the matals, details of their extraction, purification and account of the use . But it is to be regretted that his valuable treatise is known to us only from the quotations made in the later works and the original is untraceable and unknown.

Gupta Period

The Gupta age is a golden age in fine arts. The greatest achievement of the age is the iron-pillor standing even now near the 'Kutub Minar' in Delhi . It is a real triumph of Indian metallurgical skill.

Another iron pillar at Dhār (the ancient capital of Malava) had a total length of no less than 42 feet. The three existing pieces measure 24 ft. 12 ft. and 6 ft. in length, totalling 42 ft, in addition to a missing fragment, so that altogether this column measured approximately double the height of the pillar at Delhi.

Frend and Thorneycroft have made a thorough study of composition, microstructure, and corrosion tests of Konarak Iron (circa 1250 A.D.). Here are the results :—

Constituents	Dhār Pillar A.D. 300	Delhi Pillar A.D. 350	Konarak Iron A.D. 1250
Carbon	0.02	0.080	0.110
Silicon	...	0.046	0.100
Sulphur	...	0.006	0.024
Phosphorus	0.28	0.114	0.015
Manganese	...	...	Trace
Hardness (Brinell)	...	188	72.

The material of the Delhi Pillar was first studied by Sir Robert Hadfield F.R.S. of Sheffield. This is made of an excellent kind of wrought iron, the Sulphur being particularly low (0.006%) indicating that the fuel used in its manufacture and treatment must have been very pure (probably charcoal). There is no manganese present; a some-what special point, as wrought iron usually contains manganese. The percentage of iron is 99.966 as ascertained by actual analysis. Also, the specific gravity of the iron was determined to be 7.81. Hadfield in one of his papers presented to the Iron and Steel Institute, London, at one place admits—"Beyond Nature's own productions of large meteoric masses, the author believes he is correct in stating that no such large masses were ever known to here been produced in the Western portion of our globe at this period—Eastern knowledge was, therefore much superior to that of Europe". The height of the pillar is 23′8″ of which 22′ are above and only 20″ below the ground; the diameter of the base is 16.5 inches while that of the top is 12.5 inches, the total weight being about 6 tons.

Middle Age

In the Middle Age in India, the art of metallurgy was patronised by the Kings and their vassals for the sake of making needful war-inplements. King Bhoja refers in his work 'युक्तिकल्पतरु'

to valuable monographs like लोहार्णव and लोहप्रदीप. King Bhoja's famous work deals with manyfold topics of secular interest but in the chapter on शस्त्रयुक्ति he mentions a number of varieties of iron as well as their properties.

Metallurgy was formerly studied along with chemistry and hence most of the works on Hindu Chemistry deal with extractive metallurgy. There was no marked division between the science of chemistry and that of metallurgy. The Sanskrit literature of this period like रसरत्नाकर, रसरत्नसमुच्चय etc. discuss the topics of extraction of Copper from Pyrites (माक्षिक) Zinc from Calamine; purification of gold; construction of fire crucibles (मूषा) and Furnaces (कोष्ठी)

Export of steel

Indian steel was considered valuable on account of its superior qualities. Swords made of Indian steel were highly prized by the Persians and hence it was named "*Hind wani*'. The same word found its way into Spanish, in the shape of '*Alhinde*' meaning thereby steel. There is also abundant evidence that the Damascus blades were fashioned from Indian iron . This is a fine testimony to the metallurgical skill of the Indians of that time. Heath, in his two papers read before the Royal Asiatic Society in 1837 and 1839 with regard to Indian steel has remarked :

"The antiquity of the Indian process in no less astonishing than its ingenuity. We can hardly doubt that the tools with which the Egyptians covered their obelisks and temples of porphyry and Syenite with hieroglyphics were made of Indian steel. There is no evidence to show that any of the nations of antiquity besides the Hindoos were acquainted with the art of making steel. The references which occur in the Greek and Latin writings on this subject served only to better their ignorance of it; they were acquainted with the qualities and familiar with the use of steel, but they appear to have been altogether ignorant of the mode in which it was prepared from iron. The edges of the cutting instruments of the ancient were all made of alloys of copper and Tin, and we are certain that tools of such an alloy could not have been employed in sculpturing porphyry and Syenite.

"Quintus Curtius mentioned that a present of steel was made to Alexander of Macedon by Porus, an Indian Chief whose country he had invaded. We can hardly believe that a 30 lbs. of steel would have been considered a present worthy of acceptance of the conqueror of the world, had the manufacture of that substance been practiced by any of the nations of the west in the days of Alexander.

"The claims of India to a discovery which has exercised more influence upon the arts conducive to civilisation and the manufacturing industry than any other within the whole range of human invention is altogether unquestioned".

ULTRASONICS

D. V. N. SARMA

The word 'Sonic' comes from the Latin word 'Sonare'; which means 'sound'. The Latin prefix 'Ultra' means 'beyond'. The word 'Ultrasonics' as a whole means sounds that are beyond the audible range. It is essential to know some fundamental properties of oridinary sounds before we can know about ultrasonics.

What is Sound

Among the various instruments of human cognition sound is next only to visual perception. When one claps his hands or when the string of a Sitar is plucked we hear sound. As one claps his hands the air between the two hands is compressed in the act of bringing them together and thus a disturbance is created in the air. Similarly when the string of a Sitar is struck the vibrating string produces alternate and regular compressions and rarefactions (or pressure waves, as they are called) in the air of the hollow of the body and in its neighbourhood. These disturbances travel through air and reach the human ear. The ear-drum is moved and the sensation is conveyed to the brain.

It is obvious that the number of compressions and rarefactions produced in air per second is equal to the number of times the string vibrates per second. This number of compressions and rarefactions per second is called the 'frequency' of sound.

These compressions and rarefactions travel through air with definite 'velocity'. Sound travels through different substances with different velocities; depending upon certain physical properties of the medium. Since these physical properties of a particular medium are fixed; the velocity of sound in that particular medium is also fixed. In gases the velocity of sound is small, in liquids it is more and in solids still more. For example, the veolocity of

sound in air is only 1,088 feet per second ; in water it is 4,900 feet per second and in steel it is about 16,400 feet per second. In other words, the time required for sound to travel from Banaras to Allahabad through air will be about 6½ minutes ; through water it will be about 1½ minutes and through steel rails along the railway lines, it will be about ½ minute.

The distance between two adjacent compressions is called the wavelength of sound. Since the fiequency of sound is the number of compressions and rarefactions per second and velocity is the distance travelled per second ; the wavelength of sound, which is the distance between two adjacent compressionis, is obtained by dividing the velocity by the frequency of sound. The higher the frequency of sound the shorter will be its wave-length. Since the velocity of sound is different in different substances ; the wavelengths of sound of the same frequency will be different in different substances.

Two properties of sound which all of us can distinguish are ; firstly, its pitch (or shrillness) and secondly, its loudness (or intensity). Anybody, who plays a harmonium knows that the reeds on the extreme left give sounds of lower pitch and those on the exterme right give sounds of higher pitch and that the pitch of sound increases from reed to reed as we move from left to right . This pitch of sound is determined by the frequency of sound. The higher the frequency (or shorter the wavelength) of sound the higher its pitch. The loudness of sound is determined by the degree of compression produced by the vibrating body and this again depends upon the extent of swing (or amplitude) of the vibrating body. Thus when we turn the volume control of a radio ; we are giving more current to the loudspeaker and the vibrating part of the loudspeaker is made to swing to a greater extent . This consequently produces a greater degree of compression in the surrounding air and the loudness is increased.

What are Ultrasonics

Human ear cannot sense sounds of all degrees of loudness and of all frequencies or pitches. If the sound is too loud, it will

cause acute pain to the ear. If it is too feeble it cannot be heard. Similarly, there are two limits for the andibility of sounds, depending upon the frequency. Human ear cannot sense sounds which have frequencies lower than 30 vibrations per second. This is sometimes called the threshold of audibility. The upper limit of audibility is 20,000 vibrations per second. Sounds frequencies higher than this upper limit cannot be felt by human ear and they are called 'ultrasonics' or 'supersonics'. The former is a better name and is more widely used than the latter. Though human ear is insensitive to ultrasonics; it is found that certain animals like bats, dogs and insects can hear these sounds.

Some characteristic Properties of Ultrasonics

Ultrasonic sounds differ from ordinary sounds in the great amount of energy they possess. The fact that sound has got energy can be demonstrated very easily. In the act of blowing a balloon, we are compressing air into it and to do it we are expending some of our energy. This energy is stored up in the compressed air in the balloon. This can be seen if we make a small opening in the balloon. The air will escape out and make a light object like paper or cork fly. Therefore, sound which is made up of compressions and rarefactions has energy. If the frequency of sound is more the number of compressions and rarefactions per second will be more and the energy also will be more. Actually the energy of sound is proportional to the square of its frequency. Ultrasonics with very high frequencies therefore possess greater amounts of energy than ordinary sound. When sound waves travel through a medium friction will be produced between different layers of medium during compressions and rarefactions, giving rise to heat. The heat produced by ordinary sound in a medium is much less than the heat produced by ultrasonic sounds because there are more compressions and rerefactions in the latter case. It has been calculated that it requires a man to talk without interruption for 150 years to supply the heat required to boil a cup of tea. But water traversed by ultrasonic sounds boils an egg in few minutes.

The shortness of wavelengths of ultrasonics is another feature which contributes to its widespread application. If the dimensions of the body which emits sound are smaller than the wavelength of the sound it emits ; the sound emitted is propagated in all directions. If the dimensions of the source of sound are larger than its wavelength, then the sound produced travels in the form of a beam in a single direction. Such unidirectional beams of sounds are required for many purposes. If we want a unidirectional beam of audible sound, the dimensions of the source will become enormous due to the greater wave-length of audible sounds, and it will not be handy for laboratory purposes. But we can get undirectional beams of ultrasonic sounds from very small sources. Usually such beams, when they fall on any obstacle, will be reflected giving rise to an echo. By noting the time taken to get an echo and by analysing the nature of echo ; one can determine the distance and the nature of the obstacle. While producing the echo the obstacle acts as a secondary source, and, therefore, if we want to know greater details about the nature of the obstacle, we have to use shorter and shorter wavelengths of sound. Ultrasonic sounds of extremely short wavelengths down to the order of 0.00055 mm. (or 5500 A°), that of visible light, can be produced and the sizes and shapes and densities of extremely small obstacles can be determined by this method.

When ultrasonics travel through any liquid the alternate compressions and rarefactions produced are so vigorous that the liquid is torn asunder and bubbles of vapours of liquid and of the gases dissolved in the liquid, are formed. This process is called cavitation. The collapse of these cavitation bubbles gives rise to pressures of several thousand atmospheres, releasing great amounts of mechanical energy. This process of cavitation is responsible for many peculiar effects of ultrasonics and is applied for many purposes. When the process of cavitation occurs, tiny droplets of liquid are trapped in the bubbles so formed and the bubbles and the droplets are found to have unlike electrical charges. When the bubble collapses, its dimensions are decreased abruptly causing great electrical tension. This leads to

electrical discharges resembling microscopic flashes of lightening. Sometimes the vapours of the liquid and the gases dissolved in it glow due to these discharges. These electrical discharges are responsible for some chemical effects of ultrasonics.

Production of Ultrasonics

In nature bats produce ultrasonic sounds, which they send at short intervals, in order to find out obstacles in their path. They detect the obstacle by the reflected echo. On olden times, illegal hunters in forests used to call their dogs with Galton whistles which produced ultrasonic sounds only.

The modern sources of ultrasonics are piezoelectric plate and the magnetostrictive vibrator. Piezoelectric plate is a specially cut quartz plate. This plate if compressed, developes opposite charges on its two faces and when the plate is expanded charges opposite to those obtained during compression appear on the faces. Conversly, if an alternating current is applied to the faces of the plate, it vibrates with the frequency of the altenating current applied. If the natural frequency of vibration of the plate, which is determined by the dimensions of the plate ; conicides with that of the alternating current the phenomenun of resonance occurs and very powerful vibrations of the plate are produced. These vibrations give rise to ultrasonic sound if the frequency of vibration is made to correspond with that of ultrasonic sounds. Similarly, if a rod of magnetic material like nickel is compressed, the rod will be magnetised in one direction and if it is expanded, there will be magnetisation in the opposite direction. Conversly, if a coil is wound round a nickel rod and an alternating current is passed through it ; the rod is magnetised alternately in apposite directions, producing contractions and expansions of the rod alternately. This is called the magnetostrictive effect. If the natural frequency of the rod coincides with the frequency of the alternating current applied resonance occurs. The buzzing of the small transformer which is used for zero watt bulbs, is due to magnetostriction. Powerful

ulterasonic sounds of different frequencies can be obtained by choosing a piezoelectric plate or magnetostrictive vibrator of suitable dimensions and by applying alternating current of suitable frequency.

Uses of Ultrasonics

The first application to be made of ultrasonics, was by Paul Langevin in 1916 who suggested the use of ultrasonic signals to detect German submarines which were harassing the French Navy in the World War of 1914-18. By sending a pulse of ultrasonic signal into the ocean in a predetermined direction ; one can determine the presence of any obstacle and its distance by means of the of an echo and the time taken to receive the echo.

One of the most important applications of ultrasonics in industry, is the thickness measurement, when only one side of the body, whose thickness is to be measured, is available. The echo method is employed and the time required to receive the echo is measured. This time is the time required to travel twice the thickness we are measuring because the sound has to travel to and fro. Knowing the velocity of sound in the material, we can calculate the thickness under consideration from the formula $2T/v=t$; where t is the time lapse between sending of the ultrasonic pulse and the receipt of echo, T is the thickness to be determined and v is the velocity of sound in the material. If the thickness to be determined is very small ; an apparatus, called cathode ray oscillograph is used to measure the time lapse. The cathode ray oscillograph is a cumbersome instrument. Therefore, the echo method is modified and the so-called resonance method is employed. In this method we need not measure the time lapse. Suppose the thickness to be T. Then, if we employ ultrasonic sounds of that frequency whose wave length in the material is 2T the incident and reflected sound waves will reinforce each other and the phenomenon of resonance will occur raising the intensity of echo to a maximum at this particular frequency. The resonance occurs not only at this, so-called fundamental

frequency with respect to the thickness to be measured, but also at any frequency which is an integral multiple of it. Usually, two consecutive resonance frequencies are determined whose difference obviously gives the fundamental frequency. Half of the wave length of sound of this frequency in the material gives the thickness of the material. By this method, thicknesses, of tubes in the oil industry, of the bases of ships, of coverings on cables and of thin coatings etc. are determined. The thicknesses determined are quite accurate.

By using the same method flaws in materials can be detected. Iron and steel girders, beams, wheels, rails etc. can be tested for any flaws or bubbles produced in casting which affect their strength.

Scales formed in boilers of steam engines are removed by irradiation with ultrasonics. The powerful vibrations of of ultrasonics tear away layers of scale formed in the boilers.

Ultrasonics are employed in soldering also. Some metals (notably Aluminium) form their oxides on the edges which are being soldered. Consequently the soldering is not perfect and the joint is weak. If an ultrasonic vibrator is attached to the soldering iron; it vibrates powerfully, initiating the process of cavitation in the molten metal. The layers of oxide are torn away by the collapse of cavitation bubbles and clean surface of the metal is presented for soldering, making the soldering perfect.

Efficient cleaning of tiny mechanisms like watch springs etc. can be done by the help of ultrasonics. The things to be cleaned are kept in the conventional cleaning solution and the solution is subjected to ultrasonic sounds. This produces cavitation in the cleaning solution and any foreign material sticking to the tiny mechanisms is torn off, cleaning them perfectly. Wollen dresses are also washed by similar methods.

Ultrasonics are used extensively in photographic industry to produce fine grain emulsions. Whenever a good enlargement of a negative is required; the negative must be of fine grain

emulsion, so that the enlargement will not show awkward graininess. In the preparation of emulsions, the emulsions are subjected to ultrasonics. The large particles of light-sensitive material in the emulsion are broken up into very fine grains.

When big auditoriums are being constructed it is desirable to know their acoustical properties before hand. Such an information can be obtained by experimenting on a small model of the building with ultrasonic sounds.

Ultrasonics are used in medicine to produce injectible emulsions of substances which are immiscible in water. One example is camphor, which is used for treatment of Cholera. Ultrasonics are also used to detect malignant tumors instead of X-rays.

Ultrasonics can produce chemical changes. They can produce oxidation and reduction. They can polymerize and depolymerize macromolecules. Aging of whiskies can be effected rapidly by ultrasonics which otherwise requires a long time.

Ultrasonics can produce biological effects also. They are known to destroy bacteria and viruses. They can accelerate vital processes if used properly. Some seeds treated with ultrasonics germinate voilently.

Recently a branch called ultrasonic optics has been developed and ultrasonic microscopes are constructed to view objects which are in opaque substances where conventional microscopes fail.

Ultrasonics are also used in electronic brains wherever a 'mechanical memory' is needed. Here, the fact that an ultrasonic signal takes a definite amount of time to travel through a certain length of material, in utilised. The electric signal which has to be remembered by the electronic brain is converted into an ultrasonic signal and is made to traverse a certain length of rod and then is again converted into the electric signal again. Thus the electronic brain remembers the signal for a time equal to the time taken by ultrasonic signal to traverse the rod.

The uses of ultrasonics are briefly discussed above. For further applications and for further details of applications mentioned here the readers can consult books on this subject. Some popular references are listed below :

1. Science News No. 7, Penguin Books, London.
2. Science News No. 44, Penguin Books, London.
3. Sounds we cannot hear, Kudryavstev, Foreign Languages Publishing House, Moscow.

PLANT IN RELATION TO HUMAN WELFARE

MAHENDRA SHUKLA

Importance of plants

The basic relationship of plants and animals on this planet should ever be kept in view. It would not be an exaggeration to say that the animals largely depend on the plants for their subsistance, shelter and even transportation. Moreover, green plants, with a few exception, are the only builders of organic substances out of inogranic raw material by photosynthesis, which are made available to other living organisms in the form of carbohydrates (sugar, starch etc.), proteins, amino acids, vitamins etc. Animals also depend for the supply of oxygen on the green plants as they act as purifiers of air. Non-chlorophyllous plants also depend upon the chlorophyll bearing plants for their subsistance, since they can not elaborate food for themselves in the absence of chlorophyll. Besides food, drugs, beverages, fibers and chemicals are some of the plant products which are useful to man. Plants which became burried in the bosom of the earth during natural calamities in past, are the basic sources of the world's fuel and power reserves in the form of coal and petroleum respectively.

The useful plants number into legions. From the lowest algae and fungi to the highest seed plants there are many economically important species. Out of these, seed plants are very numerous and are responsible for about 99% of the total food resources of the world. Of the approximately 200,000 known plant species about 3,000 have been used for food ; only about 300 are widely cultivated and, about 95% of the world food product is derived from a fewer than a dozen crops such as wheat, barley, rice, corn, potatoes, sweet potatoes, sugarcane, beans etc. Three fourth of the total world food supply is derived from a single plant family

of grasses which includes wheat, rice, millets, sorghum, barley etc. which have been known for more than 5,000 years and were followed by corn, oats, rye, sugarcane etc. which have been known for more than 2,000 years.

The legume family has numerous representatives, such as peas, beans, pulses, lentils etc., the importance of which as sources of protein is well known. Most .of them have been known for more than 5,000 years and were widely cultivated in Egypt.

Besides these two important and major groups of plants, about all the other groups of plants have some representatives which are beneficial to man either directly or indirectly. Potatoes, sweet potatoes, oil seeds are widly cultivated all the world over. Besides every country produces fruits and vegetables for its use.

The importance of medicinal plants for human wellbeing can not be overlooked. The story of Penicillin, Streptomycin etc. is quite fresh in our memory. Medicinal plants too have served man from very early times. In ancient India, the medical men were essentially herbalists and used to prescribe raw plant products and decoctions for the cure of human diseases and discomforts. The one plant 'Sarpagandha', the medicinal importance of which is now realised, was known to the Ayurvedic physicians in remote, is the *Rowlfnia serpentina*. The development of science has enabled us to extract and purify many essential principles from the plants which are of great restorative and curative value. for example, ergotin, belladona, quinine, ephedrine, opium etc.

There are plant products like cotton, hemp jute, which are of immense industrial value. The wood is still the most important building material even in this steel age. In addition to these, rubber, paper, trupentine, acetone, tannins, resins, pigments, oils etc. are all plant products which are of so much commercial importance.

The World's food problem

India alone is not suffering from the scarcity of food but the whole world is, in fact, faced with the problem of food deficiency. The result of the world food survey by the FAO, nearly ten years ago, showed that "By 1960, if everyone is to have an adequate diet, the world will need, according to the estimates of the survey, the following increase beyond pre-war production :—cereals 21%, roots and tubers 27%, sugar 12%, fats and oils 34%, pulses and nuts 80%, fruits and vegetables 163%, meat 46% and, milk 100%. "Many countries are trying to increase the agricultural productivity by the use of minerals and fertilisers, green manure, ratation of crops, improved cultural practices, use of insecticides and fungicides, cooperative farming and communes. The food of man consists of grains 73%, vegetables and fruits 12%, sugar 6%, milk 5% and meat only 4%. The average per capita consumption is nearly 558 lbs. by dry weight. the average person eats annualy 400 lbs. of grains, representing 3/4th of the total dry matter consumed, and roots saps, juices and imma ure seeds of plants to the extent of 18% of the total dry matter consumed. Plants therefore supply man directly with the bulk of his food. Milk and meat represent only 5% and 4% respectively.

Plant vs. animal material

It has been often pointed out that a very large amount of energy is lost in the conversion of the plant material into meat for human consumption. It is shown that while the corn produced from an acre will serve to feed 1000 men for single day, this on conversion into meat be only 125 lbs. of dressed beaf, sufficient for only 143 men, meaning thereby a loss of 95.7%. It is suggested that the food be supplemented with meat, fishes and eggs. In order to produce enough of meat and eggs, a great deal of vegetable matter will have to be sacrificed for their production.

Food losses

It is therefore, emphasised that not only the world must produce more food to satisfy todays population which is increasing

at the rate of 30 million every year, it must also save what it produces. The annual loss due to vagaries of climatic, unsatisfactory storage conditions, and attacks of insect pests, fungi etc. may be more than 10-15%.

Importance of plant disease

Plant diseases have been known to us from very earliest times. In the days of Greeks and Romans they were attributed to the anger of the Gods, and so prayers were offered to the Gods in order to appease them.

At a time when the compound microscope was not known it was not possible to ascertain exactly the cause of the disease. The first authoritative discovery was made in 1850 when de Bary, the father of modern plant pathology, established a relationship between the causal organism—a fungus, and the blight disease of potato. And now we know that the plants may be attacked by fungi, bacteria, viruses, insects, nematodes etc. basides disease due to physiological disturbances and nutritional deficiencies.

Effect on crop production

Diseases are limiting factor in crop production in many parts of the world. The cultural practices will not suffice till the plants are not made safe against the epidemics. The great devastation which caused the elimination of coffee growing in Ceylon (during 1880) was due to a fungal disease. It was not possible to grow coffee any more in Ceylone.

Some disease producing organisms are not so harmful themselves but they weaken the vitality of the plants so that they become susceptible to other diseases. Disfiguring of furits and vegetables is common and a reduction in their market value results. Moreover, some diseased materials proved to be harmful also. The most common being the ergot which causes gangrene in sheeps and cows, and is harmful to man also.

Monitory loss

The importance of plant disease would be well appreciated if the loss were presented in terms of money. Reliable estimates are available for the losses caused by the stem rust of wheat in the U.S.A. According to Fletcher, 100 million bushels of spring wheat, worth upwords of 50 million dollars, were distroyed principally in Minnesota, North and South Dakota, during the rust epidemic of 1935. In India, no reliable figures are available regarding the total loss caused by the rusts. In the year 1903, Butler stated that probably 40 million rupees will not be an over estimate of the loss in India. An overall 7-8% loss in the yield would be a safe estimate, according to Mitra, considering the fact that owing to much earlier appearance of rusts in the plains of India the crop here suffers for a longer period. More than 200 million rupees may be computed as the loss per year neglecting the outbreaks of the epidemics. The epidemic of 1947 was a national disaster resulting in the loss of nearly two million tons, according to official reports.

Progress and need

National even international recognition of the importance of plant disease is not wanting. The acuteness of this problem is more keenly felt in our country where the population is large and food limited. With the increase in population it will become still more acute. The problem can hardly be solved by the 'grow more food' campaign or by 'Family planning'. It is necessary to provide facilities for phytopathological investigations to evolve better methods of combating disease, to decrease the cost of crop protection to increase crop production, to produce resistant varieties of plants and plants of better yield. To reclaim usar lands and the deserts, to drain off the marshes in the terai area and to encourage terrace farming in the hills, all these require intensive research and ivestigation.

When the food problem in India is so acute, a little change in food habit is also called for. For example, certain algae and fungi can be used as food. We are fortunate in having seas on

the three sides of our country. One of the most important green alga, the unicellular *Chlorella* will also serve in solving the food problem if and when properly exploited.

At such a critical time when the world is not able to satisfy the apetite of the present population of human being and the demand for it is increasing everyday, all the knowledge of plant protection and control of diseases and pests must be used. The loss is so great and so important to us that large scale operations as well as researches must be carried out with complete objectivity and thoroughness. Every attempt should be made to develop resistant varietis of plants which is perhaps the best method of disease control. Many great discoveries are being made everyday but unless the problem of food is solved all else may be of little avail.

NATIONAL METALLURGICAL LABORATORY, JAMSHEDPUR

The National Metallurgical Laboratory, situated at Jamshedpur, is the sixth in the chain of national laboratories set up by the Council of Scientific and Industrial Research. The decision to have an organised metallurgical research laboratory was in keeping with the objectives of the Government to have a planned industrial development directed towards expansion and effective utilisation of the country's resources in metals and minerals.

Since its inception, the National Metallurgical Laboratory has directed its efforts towards developing substitute alloys both in ferrous and non-ferrous fields, which are not merely replicas of foreign products but are based on indigenous alloying elements. The purpose is to meet the needs of Indian engineering and other industries mainly by locally available materials.

In this connection, mention must be made of the work done at the Laboratory for the development of nickel-free stainless steels based on indigenous elements. This work is significant in view of the fact that India has no indigenous sources of nickel and has been recently importing several thousand tons of nickel-bearing stainless steel a year valued at several crores of rupees. These substitute nickel-free stainless steels can successfully replace the conventional chromium-nickel steel in specific applications and can be used for all kinds of domestic utensils, for railway fittings and many other purposes.

Significant progress has also been made in some of the industrial projects initiated by this Laboratory which are now being translated into pilot plant scales. Among the new methods developed at the Laboratory are those for the production of electrolytic manganese metal, electrolytic manganese dioxide and refractories.

The Laboratory maintains a close liaison with the industry, and pays particular attention to the problems and requirements of the small-scale metallurgical industries. It undertakes special research for their benefit and holds demonstrations of small-scale production techniques.

The photo shows the "L. D. Convertor" designed and fabricated at the National Metallurgical Laboratory, for the production of oxygen-blown steel from Indian pig iron. The plant employs a revolutionary process of making steel from inferior type of pig iron. The process, which has been developed at the National Metallurgical Laboratory, is both cheaper and faster than the traditional methods and better suited to the needs of India's rapidly developing steel industry. Incidentally, it is this process which will be used for the first time at the Rourkela Steel Plant, one of India's three big new steel projects.

No. 72024/E 1018





REGIONAL RESEARCH LABORATORY, HYDERABAD

India's vast agricultural, forest and mineral resources are distributed far and wide in different regions. To ensure speedy, uniform development and utilisation of local resources in various regions, the Indian Council for Scientific and Industrial Research is working on a plan to set up regional laboratories outside the chain of National Laboratories whose work is of a more specialised nature. The Research Laboratory at Hyderabad is the first such laboratory to be included in this scheme. The second of the regional laboratories has been located at Jammu ; and the third one is going to be set up in Assam.

The research laboratory at Hyderabad has been in existence since 1944. It was established by the then Government of Hyderabad under the name of "Central Laboratories for Scientific and Industrial Research". In April 1956, it was taken over by the Council of Scientific and Industrial Research and reconstituted as a Regional Research Laboratory.

At the time of its reconstitution there was little need to change its old objective, which is to assist in the industrial development of the region by organising systematic study of its natural resources, and finding ways and means for their maximum exploitation.

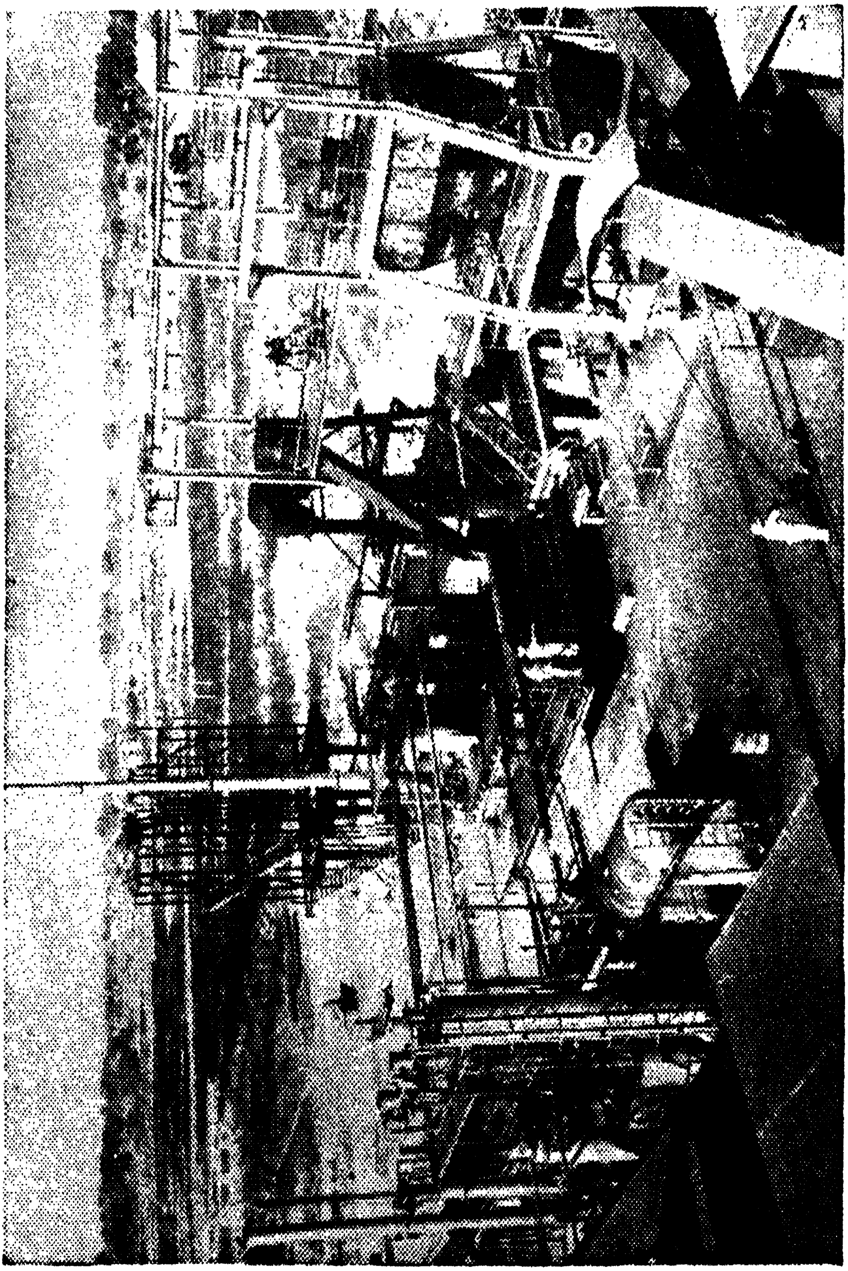
Being located in the vicinity of a coal-bearing area, it was inevitable that the Regional Laboratory at Hyderabad should be specially interested in the study of the various types of coals found in Andhra Pradesh and adjoining areas. Study of low temperature carbonisation of lowgrade, high-ash, non-coking coals of Andhra going on at the Fuels Division of the Regional Laboratory deserves special mention. The soft coke produced at the Laboratory has been marketed as smokeless domestic fuel called "Kolsite". Recently, the Laboratory has completed a

survey of fuel consumption in the cities of Hyderabad and Secunderabad to assess potential market value of this product.

Next to the Fuels Division, the most important Division of the Research Laboratory at Hyderabad is the one relating to oils, particularly castor oil. Andhra, it should be remembered, supplies about a quarter of the world's castor. Mention must also be made of a new insecticide, called "Citicide", which has been produced at the Laboratory from indigenous turpentine.

Picture shows a section of the Chemistry Wing of the Regional Research Laboratory at Hyderabad.

No. 37806/E 1019



CENTRAL FUEL RESEARCH INSTITUTE, DHANBAD

In 1946, the foundation of the Fuel Research Institute was laid at Digwadih, about nine miles from Dhanbad, situated in the heart of the Central Indian coal fields area. In April 1950, the Institute was formally declared open by the President of India, Dr. Rajendra Prasad.

During the eight years that have followed its establishment, the Institute has made significant contribution to our knowledge of Indian coals. Its Coal Survey Organisation consists of six regional Coal Survey Stations situated in important coal producing areas of the country.

Work done at the Institute and at the Coal Blending and Coking Research Organisation at Jamshedpur has shown that it is possible to obtain good metallurgical coke to meet the requirements of the iron and steel industry which needs coal of superior quality.

The Fuel Research Institute has been pioneer in the field of coal cleaning in India.

Since reserves of natural oil in India are considered insufficient for our needs, extra importance is attached to developing suitable methods for its production synthetically. The production of synthetic diesel oil is intimately connected with the fuel problems of the domestic sector, which still remains the largest consumer of coal. Research workers at the Institute have succeeded in developing a simple process for the production of soft-coke for domestic use.

Among the important by-products of coal obtained at the Institute are chemicals used in water softening and for the manufacture of glucose from starch; ashless carbon for the manufacture of electrode carbon and other moulded products; certain types of resins from Indian coal tars for paint, varnish, rubber

and paper industry, floor coverings, printing inks and adhesives; montan wax from South Arcot, lignite and pyrites from the washery rejects from coal.

As part of its job to find ways and means of economic and efficient utilisation of India's coal resources, the Fuel Research Institute has devised special processes for converting ordinary coal into high quality metallurgical coal required by the rapidly expanding iron and steel industry.

Here is a view of the pilot plant set up at the Institute for conducting investigations on various types of coal to determine their suitability for metallurgical purposes.

No. 73061/E 1020

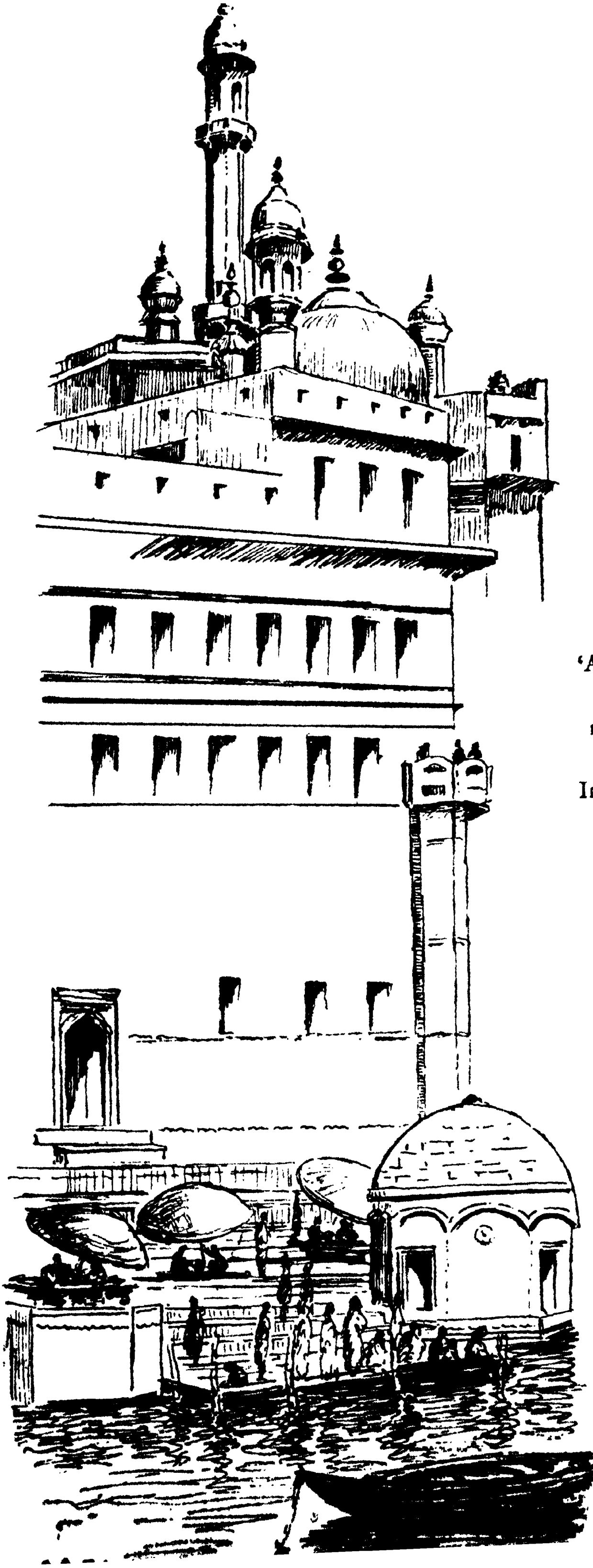
The Fine Art Section of the College of Music and Fine Arts was started in the year 1949. It offers courses of study in Painting and in Sculpture. In order to enable students of other Colleges in the University to benefit from these courses, classes are held in the evening hours.

It is the aim of this Section to have an integrated course of Western and Indian Schools of Painting and of Sculpture.

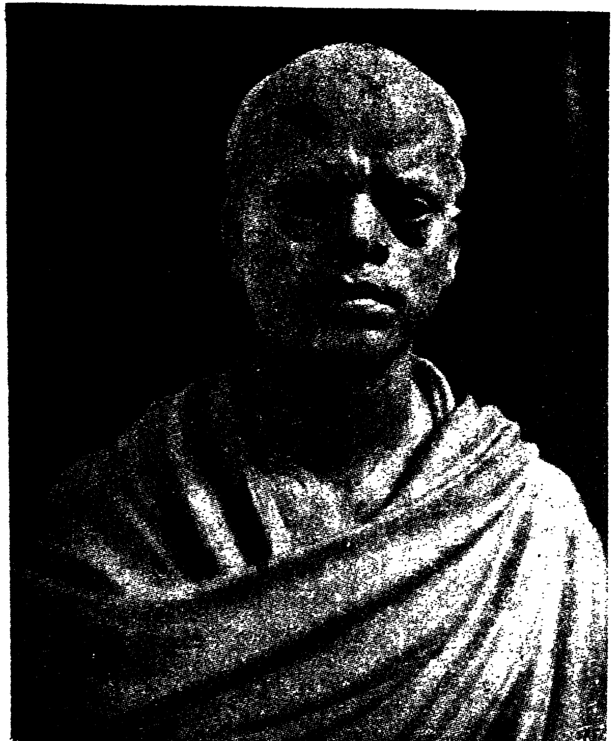
During the short period of its existence, several students have benefitted from these courses. A number of exhibitions have been held by this Section, and the works of the students and the staff have been displayed to view.

A few photographs of the sculptures and drawings made by the teachers and the students are reproduced here to show what kind of work is being done in this section.

A. B. MISRA,
Editor.



'A Study from Ghat'
with Aurangazeb's
minaret in the back
by D. P. Patnaik,
Instructor in Painting,
College of
Music & Fine Arts,
B. H. U.



Portrait study from life.
Artist—M. V. Krishnan, Instructor in Sculpture, College of Music & Fine Arts, B. H. U.



Portrait study from life.
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Winter by Shivadari Ram
III Year Sculpture.

